

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

David D. Faraldo II

Application No.: 10/020,123

Filed: October 30, 2001

For: ALERT MANAGEMENT DATA  
INFRASTRUCTURE AND  
CONFIGURATION GENERATOR

) Examiner: Leroux, Etienne Pierre

) Art Group: 2161

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.131**

I, David D. Faraldo II, declare the following:

1. I am an inventor of the above identified patent application.
2. I have reviewed the application, including the claims of the application, and I have also reviewed a copy of the current claims which are pending (a copy of which is attached as Exhibit A).
3. The declaration made herein is to establish reduction to practice of the invention prior to October 19, 2000, which is the effective filing date of the U.S. Patent Number 7,069,309.
4. The claimed invention was implemented prior to October 19, 2000. Hence, the claimed invention was reduced to practice prior to October 19, 2000.
5. Exhibit B attached herewith is a title page of a Product Requirements Document (PRD) for NOCpulse Internet Operational Support Service, dated August 30, 2000, i.e., prior to October 19, 2000. The PRD is an internal document that describes the NOCpulse service incorporating the Telalert system which is the subject matter of the above identified patent application.

6. Exhibit C attached herewith includes page 10 of the PRD, stating that the Telalert system has been integrated into the NOCpulse service. Page 10 describes the Telalert system that provides the functionality of the presently claimed invention. As stated above, the PRD is dated prior to October 19, 2000.

7. Based on the above description and as is evident from the attached exhibits, the reduction to practice of the subject matter described in the present application was prior to October 19, 2000.

9. I declare, to the best of my knowledge, that all statements made in this document are true, and that all statements made on the information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified patent application or any patent issued thereon.

Dated: 2007-10-11

  
Name: David D. Faraldo II

Exhibit A

IN THE CLAIMS

1. A computer-implemented method comprising:  
validating configuration information specified by a user;  
storing the configuration information in a database;  
extracting at least a subset of the configuration information from the database  
based on an extraction parameter identifying one of a plurality of business  
sites; and  
generating a text-based configuration file containing the extracted configuration  
information.
2. The method of claim 1 wherein the configuration information includes  
configuration keyword information recognizable by a messaging application.
3. The method of claim 1 wherein the database is a relational database.
4. Canceled.
5. The method of claim 1 further comprising:  
configuring a messaging application using the configuration file.
6. The method of claim 1 further comprising periodically generating additional text-  
based configuration files according to a schedule.

7. The method of claim 1 wherein the database includes configuration information for the plurality of business sites across a plurality of networks.
8. The method of claim 1 wherein the configuration information is used by at least one messaging application to transmit a message to a destination.
9. The method of claim 1 wherein the configuration information includes a contact.
10. The method of claim 1 wherein the configuration information includes a contact method.
11. The method of claim 1 wherein the configuration information includes a method type.
12. The method of claim 1 wherein the configuration information includes a contact group.
13. The method of claim 1 wherein the configuration information includes a contact group member.
14. The method of claim 1 wherein the configuration information includes a schedule.
15. The method of claim 1 wherein the configuration information includes a strategy.
16. The method of claim 1 wherein the configuration information includes a pager type.

17. The method of claim 1 further comprising: creating at least one include file for a plurality of sections within the configuration file.
18. The method of claim 1 further comprising:  
compiling the configuration file into a compiled file at a later time.
19. The method of claim 1 further comprising:  
updating the configuration information stored in the database through a portal.
20. The method of claim 1 wherein the extracting is performed over a secure communication pathway.
21. A machine-readable medium that provides instructions, which when executed by a processor, cause said processor to perform a method comprising:  
validating configuration information specified by a user;  
storing the configuration information in a database;  
extracting at least a subset of the configuration information from the database  
based on an extraction parameter identifying one of a plurality of business sites; and  
generating at least one text-based configuration file containing the extracted configuration information.
22. The machine-readable medium of claim 21, wherein the configuration information includes configuration keyword information recognizable by a messaging application.

23. The machine-readable medium of claim 21, wherein the database is a relational database.
24. Canceled.
25. The machine-readable medium of claim 21, wherein the method further comprises configuring a messaging application using the configuration file.
26. The machine-readable medium of claim 21, wherein the generating of the text-based configuration file is performed periodically according to a schedule.
27. The machine-readable medium of claim 21, wherein the database includes configuration information for the plurality of business sites across a plurality of networks.
28. The machine-readable medium of claim 21, wherein the configuration information is used by at least one messaging application to transmit a message to a destination.
29. The machine-readable medium of claim 21, wherein the configuration information includes a set of one or more contacts, contact methods, method types, contact groups, contact group members, schedules, strategies, and pager type.
30. The machine-readable medium of claim 21, wherein the method further comprises: creating at least one include file for a plurality of sections within the configuration file.

31. The machine-readable medium of claim 21, wherein the method further comprises:  
compiling the configuration file into a compiled file at a later time.
32. The machine-readable medium of claim 21, wherein the method further comprises:  
updating the configuration information stored in the database through a portal.
33. The machine-readable medium of claim 21, wherein the receiving is performed over a secure communication pathway.
34. An apparatus comprising:  
a database, the database to store configuration information specified by a user;  
and  
a configuration generator, the configuration generator to validate the  
configuration information to be saved in the database, to extract at least a  
subset of the configuration information over a communication pathway  
from the database based on an extraction parameter identifying one of a  
plurality of business sites, and to generate at least one text-based  
configuration file including the extracted configuration information.
35. The apparatus of claim 34, further comprising:  
a portal, the portal to provide access to a user to update the configuration  
information.

36. The apparatus of claim 34, wherein the configuration information includes configuration keyword information recognizable by a messaging application.
37. The apparatus of claim 34, wherein the configuration information includes a set of one or more contacts, contact methods, method types, contact groups, contact group members, schedules, strategies, and pager type.
38. The apparatus of claim 34, wherein the database is a relational database.
39. Canceled.
40. The apparatus of claim 34, further comprising:  
a compiler to generate a binary configuration file after generation of the configuration file.
41. The apparatus of claim 40, wherein the generation of the binary configuration file is executed from a scheduling tool.
42. The apparatus of claim 41, wherein the scheduling tool is at least one from a group consisting of a windows scheduler or a unix cron.
43. The apparatus of claim 34, wherein the configuration generator is further to generate at least one include file for a plurality of sections within the configuration file.
44. The apparatus of claim 34, wherein the communication pathway is a secure communication pathway.



45. An apparatus comprising:  
a storage device, the storage device to store configuration information specified  
by a user; and  
a processor coupled with the storage device over a communications pathway, the  
processor to validate the configuration information to be saved in a  
database, to extract at least a subset of the configuration information from  
the database based on an extraction parameter identifying one of a  
plurality of business sites, and to generate at least one text-based  
configuration file including the extracted configuration information.
46. The apparatus of claim 45, wherein the configuration information includes  
configuration keyword information recognizable by a messaging application.
47. The apparatus of claim 45, wherein the configuration information includes a set of  
one or more contacts, contact methods, contact groups, schedules, strategies, and  
pager type.
48. The apparatus of claim 45, wherein the storage device is a relational database.
49. Canceled.
50. The apparatus of claim 45, further comprising:  
a compiler to generate a binary configuration file after generation of the  
configuration file.

51. The apparatus of claim 50, wherein the generation of the binary configuration file is executed from a scheduling tool.
52. The apparatus of claim 51, wherein the scheduling tool is one from a group consisting of a windows scheduler or a unix cron.
53. The apparatus of claim 45, wherein the processor is further to generate at least one include file for a plurality of sections within the configuration file.
54. The apparatus of claim 45, wherein the communication pathway is a secure communications pathway.
- 55-56. (Not Entered)
57. (Previously Presented) The method of claim 7 wherein the configuration information extracted from the database is specific to one of the plurality of business sites.
58. (Previously Presented) The method of claim 1 wherein validating configuration information comprises:  
performing at least one of a referential check, a value validation check and a typographical error check.

## Exhibit B



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# NOCpulse Internet Operational Support Service Product Requirements Document

Draft Version 8.30.00

## Exhibit C



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### Escalations

The notification component is an automated system that escalates notifications based on the following configurable parameters:

- Time delay between notification and acknowledgement
- Severity of problem for which the notification is being sent
- Notification schedules for onstaff administrators

If a notification goes unacknowledged for a period of time, that notification will be resent to the next contact on the escalation tree. The parameters for escalations and the contact lists are configurable by the customer. NOCpulse has also implemented a schedule interface to allow schedule rotations to be entered into the system. Notifications are automated based on those schedules.

When a notification reaches a certain point, a trouble ticket will be opened to track and further escalate the issue.

### Communication Channels

NOCpulse has integrated the Telamon Telalert system to handle notifications to customers. In the event of a breach of a threshold, NOCpulse notifies customers through the following communication channels:

- Email
- Phone (IVR)
- Pager

If a customer requires additional notification communication channels, Telalert supports notifications through command line destinations and electronic sign boards. These channels are not widely used in the industry at this time, however. Though, the command line destination does allow for automation of processes for which NOCpulse and the customer write scripts that are triggered by certain notifications. Cool feature!

### Detailed Notification Specifications:

#### Notification Configuration Interface Specifications

Threshold Specifications (What are the thresholds that can be set to trigger a notification)

Notification Specifications (What triggers a notification)

Telamon Specifications (What Telamon specs need to be doc'd)

### 24x7 Network Operations Center Services

The fourth core component of the NOCpulse IOSS is the staffed 24x7 Network Operations Center Services. NOCpulse maintains a 24x7 staff of NOC personnel to be on call for customer concerns and help desk issues. In addition, NOC personnel are monitoring customer sites real time and can assist in escalation issues and trouble ticketing in the event that customers do not acknowledge notifications.



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# **NOCpulse Internet Operational Support Service Product Requirements Document**

**Draft Version 8.30.00**



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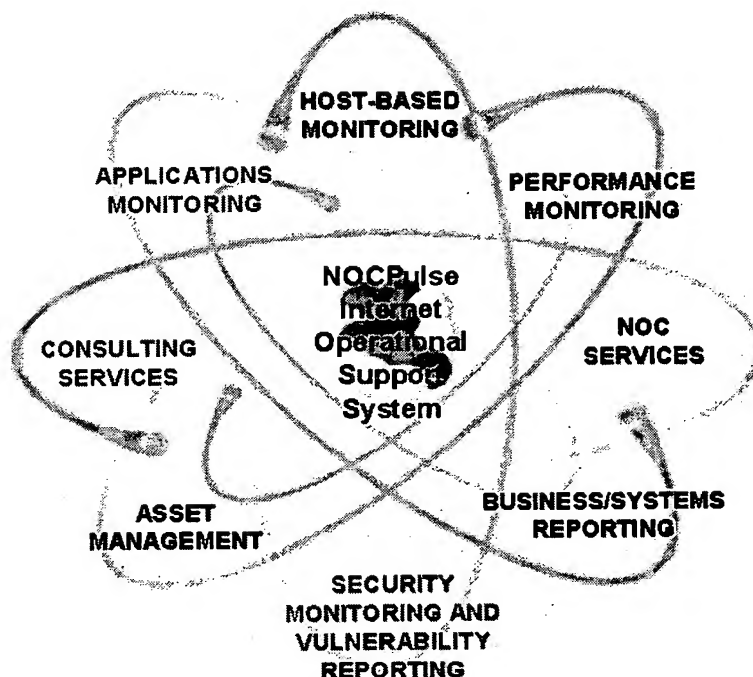


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## Internet Operational Support System Definition

This document defines NOCpulse's Internet Operational Support System (IOSS) in technical implementation detail. The IOSS is a complete set of Internet infrastructure management services built upon a scalable, automated, Web-based foundation. The goal of the IOSS is to significantly reduce the pain points of managing and supporting business critical Internet infrastructure.

The following illustration depicts the fundamental Internet infrastructure management features of the IOSS. Features in black are currently under development in a project codenamed Cheyenne. Feature in grey will be developed after Cheyenne.



## The Premise of the IOSS

NOCpulse approaches the Internet infrastructure support problem from a holistic point of view. Rather than develop a point solution product for each infrastructure management component, NOCpulse analyzed the individual problems from the business critical point of view of supporting customers, including business partners, suppliers, and traditional customers. How does a business win and keep customers?

To be successful on the Internet, businesses must meet three critical criteria: Uptime, Scalability and Performance.

A site must be up and operational 24x7. This is mandatory. If the site is down, customers will go to a competitor.

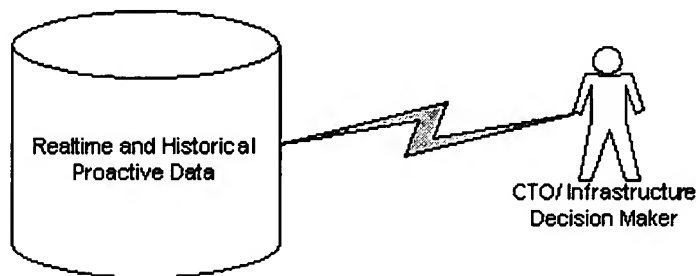


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Scalability and performance also retains or diverts customers. If a site is inaccessible during peak hours or a page takes more than 8 seconds to download, customers will go to a competitor.

NOCpulse identified that proactive information is the most useful tool that empowers a business to meet these major Internet infrastructure requirements.

Proactive information provides for informed and rational capital expenditures, capacity planning and administrative support hiring decisions. Without proactive knowledge, administrative teams are often in a fire-fighting mode, reacting to the latest hardware failure or run out in capacity.



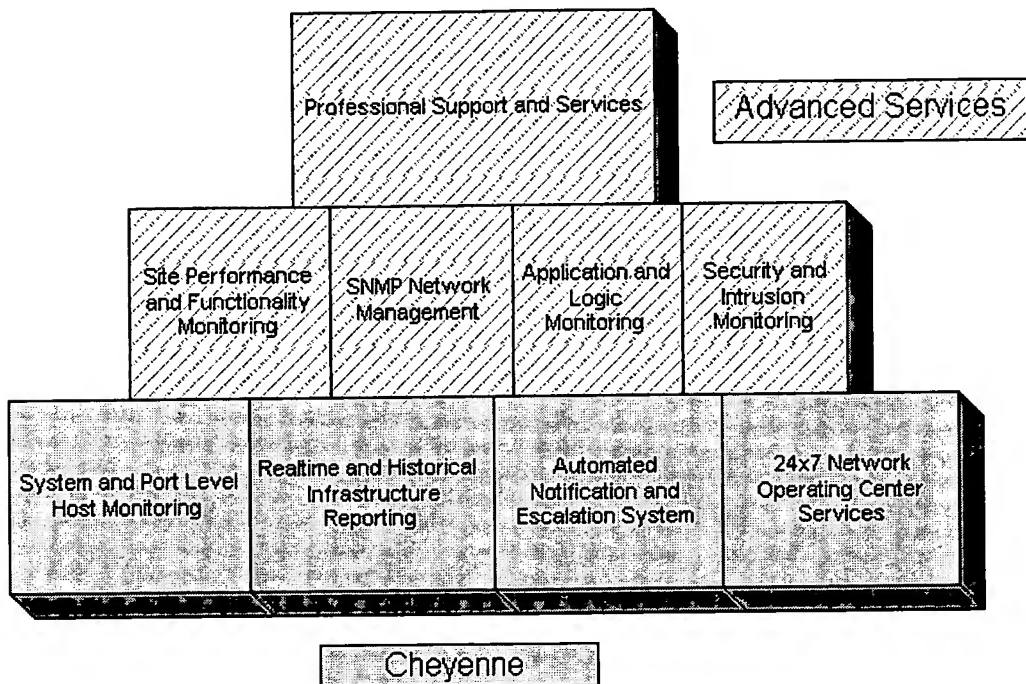
However, obtaining proactive and **meaningful** data tends to be one of the most significant pain points of supporting an Internet infrastructure.

**The goal of the NOCpulse IOSS is to reduce the operational pain-points of managing business-critical Internet infrastructure through the use of scalable, Web access to proactive infrastructure information.**

## Cheyenne

The first project phase of NOCpulse's Internet Operational Support System is codenamed Cheyenne. Cheyenne is a combination of the following components:

- A foundation layer consisting of automated monitoring, reporting, notification and NOC services.
- An advanced services layers consisting of application and performance monitoring, and future services that sit atop the foundation layer.



The remaining focus of this document details the foundation components of the IOSS platform, which is pictured above in solid grey. Some discussion will occur about the Advanced Services, but most of these services are outside the scope of version 1.

### System and Port Level Host Monitoring

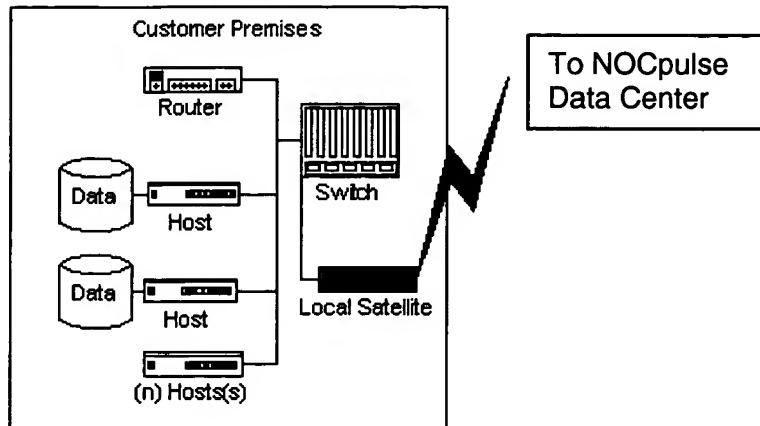
The first component of the IOSS platform being developed in Cheyenne is the System and Port Level Host Monitoring, more easily referred to as Host-Based Monitoring. Host based monitoring captures pertinent health and status information at the server or device level. This information serves as the basis for all reports that a customer can generate.

In addition, thresholds can be set on the data being returned. Threshold exceptions feed into the automated notification component of Cheyenne, triggering alerts that feed up a customer configurable escalation path. Once configured, escalations happen automatically based on the time limits and settings entered by the customer.



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The host data is gathered through a Linux box that is plugged into the Customer's network through a subnet switch. Access to each host machine is achieved through an SSH agent configured on a non-privileged port. That being a port number above 1024. The following illustration depicts the basic integration of a NOCpulse Scout with a customer's Internet infrastructure.



Data collected by the Scout is sent through the customer's network from a VPN agent installed on the Scout to a VPN client at the NOCpulse data center. The data is collected and stored at the data center for the reporting and trending functionality provided through the Customer Portal.

### **Detailed Host Monitoring Specifications:**

Monitoring Hardware Specifications

Monitoring Software Specifications

System Monitoring Specifications

Port Monitoring Specifications

Configuration Interface Specifications

SSH Specifications

VPN Specifications

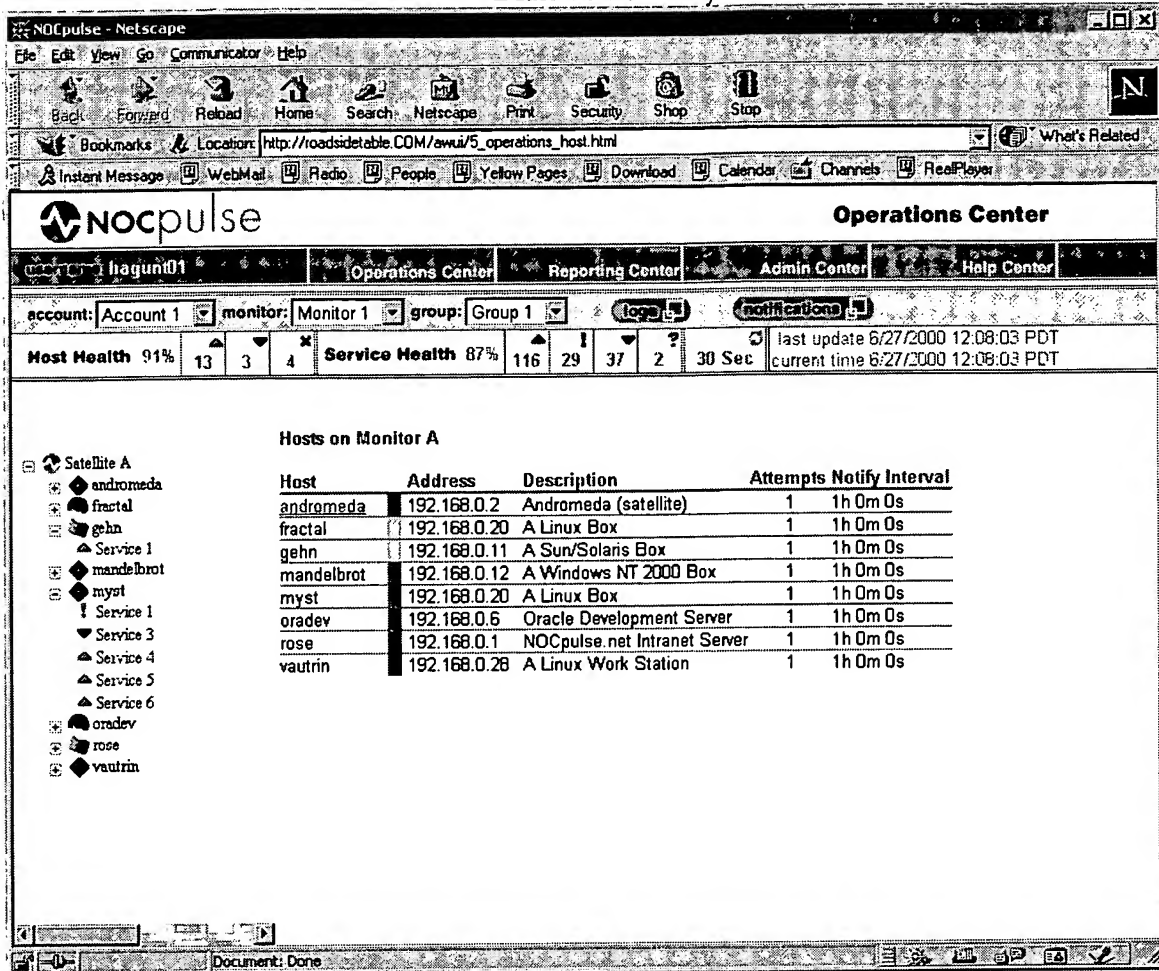
Database Specifications

## **Realtime and Historical Infrastructure Reporting**

Realtime and historical reporting capabilities are provided to the Customer through the NOCpulse Command Center, a Web-based portal. Access to customer data is controlled by company name, username and password login. This customer login data is stored encrypted in the database, as opposed to clear text passwords, and is centrally available to all components within the NOCpulse Command Center.

### **Realtime Reports**

The realtime data views are host-based statistics of the infrastructure as it is currently operating. These same statistics are also being monitored by the NOC personnel. The following screenshot shows what the right-now view of data looks like through the Command Center.



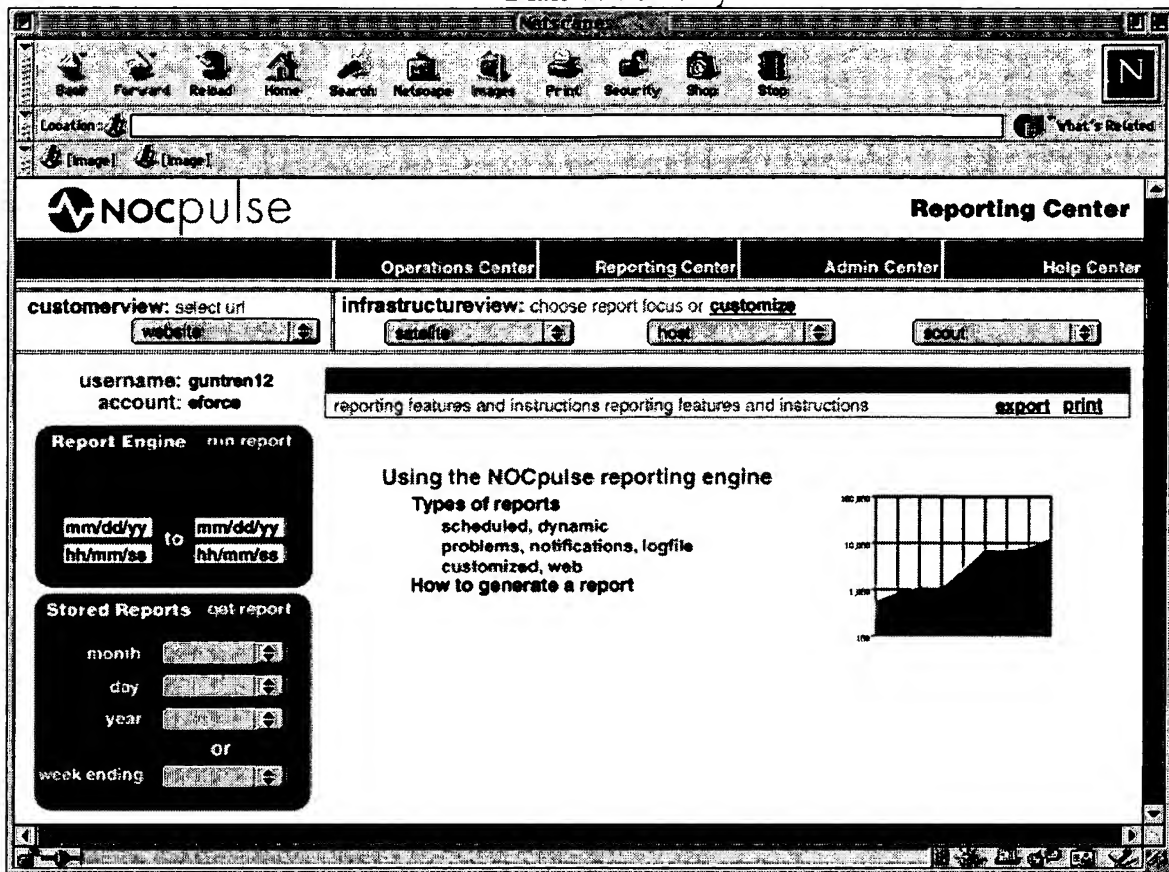
**Hosts on Monitor A**

Host	Address	Description	Attempts	Notify Interval
andromeda	192.168.0.2	Andromeda (satellite)	1	1h 0m 0s
fractal	192.168.0.20	A Linux Box	1	1h 0m 0s
gehn	192.168.0.11	A Sun/Solaris Box	1	1h 0m 0s
mandelbrot	192.168.0.12	A Windows NT 2000 Box	1	1h 0m 0s
myst	192.168.0.20	A Linux Box	1	1h 0m 0s
oradev	192.168.0.6	Oracle Development Server	1	1h 0m 0s
rose	192.168.0.1	NOCpulse.net Intranet Server	1	1h 0m 0s
vautrin	192.168.0.28	A Linux Work Station	1	1h 0m 0s

Host status is displayed in the Hosts table with a color bar of either green, yellow or red, which denotes ok, warning or critical, respectively. Details for each host can be accessed by clicking the host name in the Hosts table, or by opening the hierarchical host tree to the left of the Hosts table.

## Historical Reports

Through the Command Center, the customer can generate historical reports of their infrastructure data. Most of these reports are stored as the result of a predetermined query, usually daily, weekly and montly, so as to minimize database access and computation time. However, Customers can take full advantage of the interface to build their own reports. The following screenshot depicts the interface that facilitates the reporting functionality.



This interface generates reports based on canned or customer configured queries. Canned, or pre-stored, queries exist for daily and weekly reports. These are stored in an Oracle database, but there are plans for storing this data in XML.

Alternately, customers can specify a query based on a specific infrastructure view (monitor, host, port; inside out monitoring) or a customer view (performance and functionality of website; outside in monitoring). These parameters can be specified for any date range, as long as there was data collected for that range. We should check that an appropriate date is entered by the customer before running the query.

### Detailed Reporting Specifications:

[Reporting Interface Specifications](#)

[Reporting Specifications \(Reports that can be run and why\)](#)

[Database Table Specifications](#)

### Notification Services

An additional core component of the NOCpulse IOSS is the acknowledgement based notification and escalation system. This system automatically notifies a customer when a monitored host or service exceeds a threshold. Thresholds are preset out of the box, but



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customers can configure each threshold through the configuration tab of the Customer Portal.

## Escalations

The notification component is an automated system that escalates notifications based on the following configurable parameters:

- Time delay between notification and acknowledgement
- Severity of problem for which the notification is being sent
- Notification schedules for onstaff administrators

If a notification goes unacknowledged for a period of time, that notification will be resent to the next contact on the escalation tree. The parameters for escalations and the contact lists are configurable by the customer. NOCpulse has also implemented a schedule interface to allow schedule rotations to be entered into the system. Notifications are automated based on those schedules.

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Threshold Specifications (What are the thresholds that can be set to trigger a notification)

Notification Specifications (What triggers a notification)

Telamon Specifications (What Telamon specs need to be doc'd)

## 24x7 Network Operations Center Services

The fourth core component of the NOCpulse IOSS is the staffed 24x7 Network Operations Center Services. NOCpulse maintains a 24x7 staff of NOC personnel to be on call for customer concerns and help desk issues. In addition, NOC personnel are



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monitoring customer sites real time and can assist in escalation issues and trouble ticketing in the event that customers do not acknowledge notifications.

### **Detailed NOC Specifications:**

Support Staff Interface Specifications

Systems Specifications

Locations

Procedures

## **Customer Portal**

Sprinkled throughout. More.

## **Advanced Services**

NOCpulse is planning several advanced services to plug in to the core architecture. These advanced services include:

- Site Performance and Functionality Testing
- Network Monitoring
- Application Monitoring
- Security Intrusion Monitoring

Site Performance and Network Monitoring will most likely be built in house.

Application and Security Monitoring will most likely be provided through partnerships.

More

## **Site Performance and Functionality Testing**

The first advanced service, which will be ready in version 1, Site Performance and Functionality Testing allows a customers website to be monitored from an Internet perspective.

For example, customer ACME sells widgets online. ACME's customers rely on the online site to supply the widgets, which are in turn used to build a product sold by that customer. If ACME's site, or a portion thereof, goes down, orders cannot be placed, and ACME's customer suffers large financial consequences. ACME, therefore, has an interest to know if and when any portion of their site ceases to work properly, from their customer's point of view.

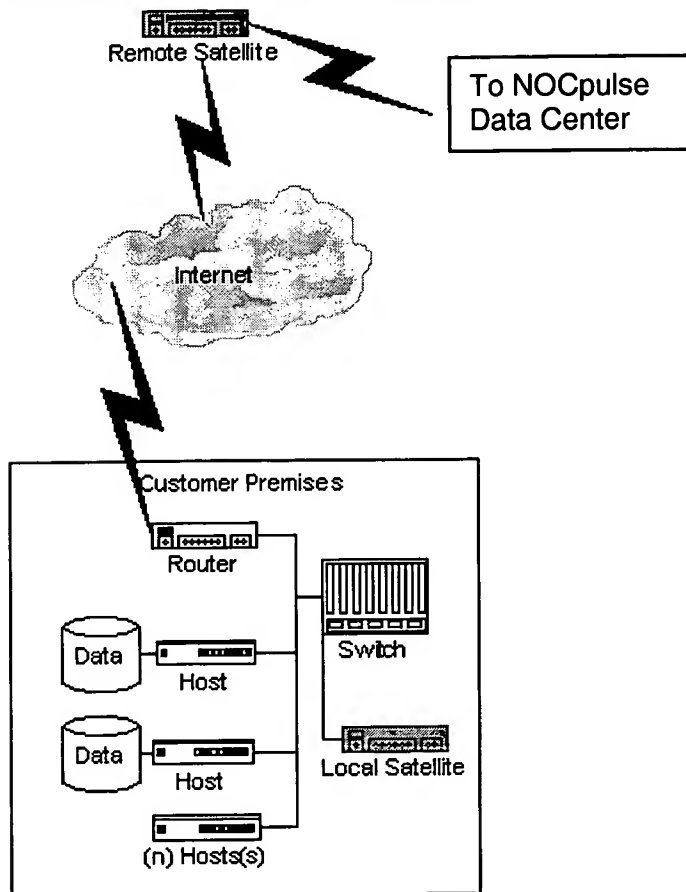
NOCpulse's Site Performance and Functionality Testing advanced service provides customers with the ability to test their site from the customer point of view. The following





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illustration depicts a Remote Satellite in relation to a customer's website.



### Remote Satellite v. Local Satellite

A Remote Satellite differs significantly from a Local Satellite in the metrics it is programmed to retrieve.

A Local Satellite collects system and port metrics of the physical Internet infrastructure from within the local area network.

A Remote Satellite collects the following Web server metrics through the Internet:

- Latency
- Total Time
- Throughput
- DNS Time
- Transfer Rate
- Connect Time

It can also check the returned content of a page, check subsidiary pages, make sure all links on a page work and test post requests and http authorizations.



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Metric	Description
Latency	Set thresholds on Web server time from authentication to 1 <sup>st</sup> byte received by the requestor.
Total Time	Set thresholds on the total time for a request to be served from DNS lookup to last object fetched.
Throughput	Advanced Feature: Set thresholds on measurement of Web server
DNS Time	Advanced Feature: Set thresholds on the time to resolve a host name to an IP address using Domain Name Service (DNS).
Transfer Rate	Advanced Feature: Set thresholds for the rate (bytes/sec) that data is sent from Web server 1 <sup>st</sup> byte received to last byte received.
Connect Time	Advanced Feature:

NOTE: Advanced Features do not appear in the main configuration page, but behind an advanced button.

## Satellite Hardware Specifications

The NOCpulse monitoring box has the following hardware specifications:

<b>Vendor</b>	Rackable
<b>Dimensions</b>	3.5"H x 17.5"W x 14"D 2U Telco rack mount
<b>Processor</b>	Pentium III 500+ Mhz (Single)
<b>Memory</b>	256 MB SDRAM
<b>Hard Disk Drive</b>	2 – 9 to 18GB SCSI Drives (Software Mirrored RAID 1)
<b>Floppy Drives</b>	1 - 48x CDROM 1 - 3.5" Disk Drive
<b>Network Interface</b>	2 - 10 BASE-T/100 BASE-TX Network Interface Cards (NIC)
<b>Backup Interface</b>	1 – Modem; Vendor to be established
<b>Box Design</b>	The front faceplate of the system will be of our design. Current plans are for a brightly colored front panel displaying the NOCpulse logo with flashing lights to simulate the pulse. If necessary, the system vendor's logo will also appear on the box. The goal of the design is that installed NOCpulse satellites will draw attention from customers sharing collocation facilities.

## Software Specifications

What is Installed on NP Box	Description
Operating System	Red Hat Linux 6.2
Monitoring Software and plugins	Netsaint 0.0.5-2 with plugin package 1.2.8-4 check_ntstat.c (for NT info collection) plugin.ini (configuration file) check.py command.py plugin.py shell.py ssh.py
VPN Software	To Be Decided JM
RAID Software	Info coming JS
Additional Software	Tripwire 2.2.1

What is installed on Host box	Description
Unix Operating Systems	SecureShell (SSH) 1.2.28 on a non-privileged port (> 1024)
NT Operating Systems	ntstat 0.5

## Additional Software Settings

The following software settings are implemented to increase the security of the each Satellite box.

- All services in **inetd** are disabled
- No RPC services are running
- Process accounting is enabled
- Only two access accounts created:
  1. User account = **nocpulse** (for remote secure shell access to client boxes)
  2. Trusted Administration account = **admin**

## SSH Specifications

This section discusses the technical implementation details of the SSH client for the customer's host machines.

## VPN Specifications

This section discusses the technical implementation details of the VPN software installed on the Satellite and at the NOCpulse data center.

## System Monitoring

What's monitored	Description
ICMP Echo (Ping)	Is the host up or not.
Disk Utilization	How much disk space is being used, how much is free.
CPU Utilization	% usage of the CPU
Load	
Memory Utilization	Amount usage in Kb of virtual memory.
Swap Space	Size of allocated swap space.
Number of Users	The number of connected users to the system.
Number of Processes	The number of processes running on the system.

## System Thresholds

Monitored	Threshold Level	Default Threshold Values
Host Ping	Up Down Unreachable	None
Disk Utilization	OK Warning Critical Unknown	< 75% 75% 90%
CPU Utilization	OK Warning Critical Unknown	< 70% 70% 90%
Load	OK Warning Critical Unknown	< 0.8 0.8 1
Memory Utilization	OK Warning Critical Unknown	0 0
Swap Space	OK Warning Critical Unknown	> 20% free 20% free 10% free
Number of Users	OK Warning Critical Unknown	< 10 users 10 users 20 users
Number of Processes	OK Warning Critical Unknown	< 400 processes 400 processes 700 processes

## Port Monitoring

We are supporting all NetSaint port monitoring plugins. Some of these may never be used by a customer, but they are supported by our system.

The Port numbers listed below are typical configurations. Customers may have these and custom services assigned to different port numbers. Configurations can vary widely.

The Measurement	Port	Description
check_breeze	NP (no port)	Reports the signal strength (%) of Breezecom wireless equipment installed on host.
check_dig	NP	Tests host DNS using UNIX dig command, which is more informative than nslookup.
check_disk_smb	NP	Checks used disk space (%) of local file system and generates an alert if percentage is above one of the threshold values. (In Perl)
check_dns_resolution	NP	Obtains IP address for specified host/domain query using nslookup. Can specify optional DNS server, or default to specified /etc/resolv.conf.
check_ftp	21	Tests an FTP connection with the host and generates an alert if answer time is above threshold values.
check_hpjd	NP	Tests the STATUS of an HP printer with a JetDirect card. (Ucd-snmp must be installed on the computer running the plugin.)
check_http	80 (http) 443 (https)	Tests the HTTP service on the host. Tests normal (http) and secure (https) servers and generates an alert if answer time is above threshold values. Follows redirects, searches for strings and regular expressions, checks connection times, and reports on certificate expiration times.
check_imap	143	Tests the IMAP4 service on the specified host and generates an alert if answer time is above threshold

		values.
check_ircd	6667	Tests IRC daemon on host and returns an alert of number of users is above the threshold values.
check_nntp	119	Tests the network news service on host and generates an alert if answer time is above threshold values.
check_nothing	NP	
check_ntp	NP	Tests Network Time service and generates an alert when offset (s) is above threshold values.
check_oracle	NP	Tests remote or local TNS status and local Database status.
check_pop	110	Tests POP mail service on host and generates an alert if answer time is above threshold values.
check_postgresql	5432	Tests postgres SQL service on host and generates an alert if answer time is above threshold values.
check_real	554	Tests the IMAP4 service on the specified host (at port 554) and generates an alert if answer time is above threshold values.
check_rpc		Tests if a RPC service is registered and running on host using rpcinfo command.
check_smtp	25	Tests the SMTP mail service on host and generates an alert if answer time is above threshold values.
check_snmp_NEEDS_WORK		Not working yet. Will test snmp service on host and be used in conjunction with Network monitoring (V2).
check_ssh	22	Tests SSH service on host and generates an alert if request timeout.
check_tcp	Any	Tests TCP connections with host and generates an alert if answer time is



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		above threshold values.
check_time	NP	Tests time port on host and generates an alert if answer time OR variance time is above threshold values.
check_udp	Any	Tests UDP connection on host and gnereates an alert if answer time is above threshold values.

## Port Thresholds

Monitored	Threshold Level	Default State Change Values

## NOCpulse Configuration Tab

Welcome, **Username**
Operations Center
Reports
**NOCpulse Configuration**
Support

MyAccountName
Select Function ▼

MyAccountName
Description
Read only

Default Escalation Strategy: First Acknowledge
Acknowledgement Wait: 5 minutes
Primary Schedule: Default Schedule

(Customer Admin View)



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**Context** (Permission: **Customer Admin**)

The Account form displays as the default screen when a customer with administrator-level permission clicks the NOCpulse Configuration tab. (The default screen for a NOCpulse admin is shown on page 14.)

## Contents

**Application Nav Bar**   Operations Center | Reports | NOCpulse Configuration | Support

<b>Local Navigation Bar</b>	Account Name Select Function	Read-only display Drop-down list
-----------------------------	---------------------------------	-------------------------------------

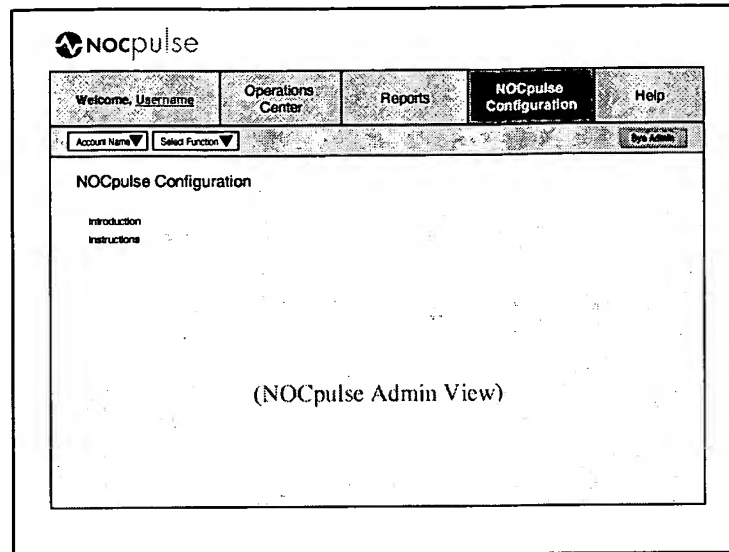
<b>Work Area</b>	Default display:	
	Account Description	Read-only display
	Default Escalation Strategy	Read-only display
	Acknowledgement Wait	Read-only display
	Primary Schedule	Read-only display

## Local Nav Interaction

<i>Action</i>	<i>Result</i>
1. Select Configure Monitoring	Displays Monitor Configuration lists in Local Nav Bar
2. Select Configure Notifications	Displays Notification Configuration lists in Local Nav Bar



## NP Admin Configuration Menu



### Context (Permission: NP Admin)

This displays as the default screen when a NOCpulse user with administrator-level permission clicks the NOCpulse Configuration tab. (The default screen for a customer admin is shown on page 13.)

### Contents

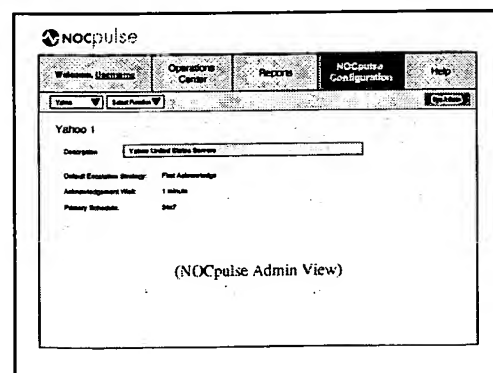
**Application Nav Bar** Operations Center | Reports | NOCpulse Configuration | Support

**Local Navigation Bar** Select Account Drop-down list  
Select Function Drop-down list

**Work Area** Default display:  
Welcome/Instructions Read-only display

### Interaction

Action	Result
1. Select Account	Displays Account info in Main Account Form Enables Select Function list





2. Select Configure Monitoring Bar

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Displays Monitor Configuration lists in Local Nav

3. Select Configure Notifications

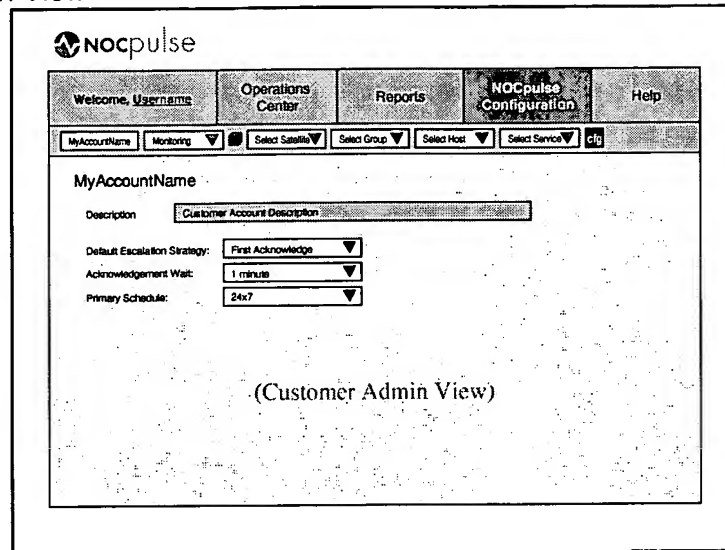
Displays editable Account Form

Displays Notification Configuration lists in Local Nav Bar

Displays editable Account Form

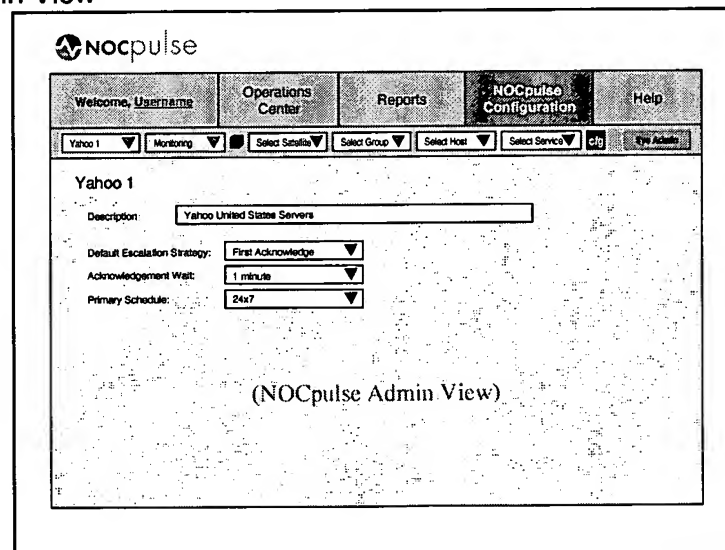
## Configure Monitoring (Zope)

### Customer Admin View



The screenshot shows the NOCpulse Customer Admin View. The top navigation bar includes 'Welcome, Username', 'Operations Center', 'Reports', 'NOCpulse Configuration', and 'Help'. Below this is a sub-navigation bar with 'MyAccountName', 'Monitoring', 'Select Satellite', 'Select Group', 'Select Host', 'Select Service', and 'c/p'. The main content area is titled 'MyAccountName' and contains a 'Description' field with the value 'Customer Account Description'. Below this are three dropdown menus: 'Default Escalation Strategy' (set to 'First Acknowledge'), 'Acknowledgement Wait' (set to '1 minute'), and 'Primary Schedule' (set to '24x7'). The text '(Customer Admin View)' is displayed at the bottom of the main content area.

### NOCpulse Admin View



The screenshot shows the NOCpulse Admin View. The top navigation bar is identical to the Customer Admin View. The sub-navigation bar includes 'Yahoo 1', 'Monitoring', 'Select Satellite', 'Select Group', 'Select Host', 'Select Service', 'c/p', and 'My Admin'. The main content area is titled 'Yahoo 1' and contains a 'Description' field with the value 'Yahoo United States Servers'. Below this are three dropdown menus: 'Default Escalation Strategy' (set to 'First Acknowledge'), 'Acknowledgement Wait' (set to '1 minute'), and 'Primary Schedule' (set to '24x7'). The text '(NOCpulse Admin View)' is displayed at the bottom of the main content area.

## Contents

**Application Nav Bar** Operations Center | Reports | NOCpulse Configuration | Support

**Local Navigation Bar** Account Name

Function selection list

Monitor selection list

Group selection list

Host selection list

Scout selection list

CUSTOMERS: read-only display

NOCPULSE: selection list of all accounts

Set to Configure Monitoring

Filtered by account

Filtered by monitor selection

Filtered by monitor and/or group selection

Filtered by host selection



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Cfg button  
[Sys Admin]

**NP Admin only**

<b>Page Header</b>	Account name	read-only display
	Update confirmation message	appears after user clicks "Save Changes"
<b>Form Fields</b>	Account description	Editable for NOCpulse ONLY
	Default Escalation Strategy	Drop-down list
	Acknowledgement Wait	Drop-down list
	Primary Schedule	Drop-down list
	Save Changes	Submit button
<b>Account Management</b>	Time Period Definitions	text link or button
	Asset Management	text link or button

## Navigation Interaction

<i>Action</i>	<i>Result</i>
1. Select monitor from list	Filters Group and Host selection lists Enables Group and Host selection lists NP ONLY: "Add Monitor" option displays blank form
2. Select group from list	Displays Group form with data for selected group Filters Host selection list "Add Group" option displays a blank form
3. Select host from list	Displays Host form with data for selected host Enables and filters Scout selection list "Add Host" option displays a blank form
4. Select scout from list	Displays Scout detail form with data for selected scout "Add Scout" option displays a blank form
5. Click cfg button	Generates new config file based on saved changes Displays confirmation dialog box

## Account Form Interaction

<i>Action</i>	<i>Result</i>
1. NOCpulse ONLY: enter text in Description field	
2. Select Escalation Strategy	Determines when system regards notification as complete
3. Specify Acknowledgement Wait	Specifies how long to wait for acknowledgement before escalating notification to next level in strategy
4. Select Primary Schedule	Serves as default schedule for contacts and contact methods if no other schedule is specified at that level
5. Click Update Record	Saves any changes to the Account record Displays confirmation message in header

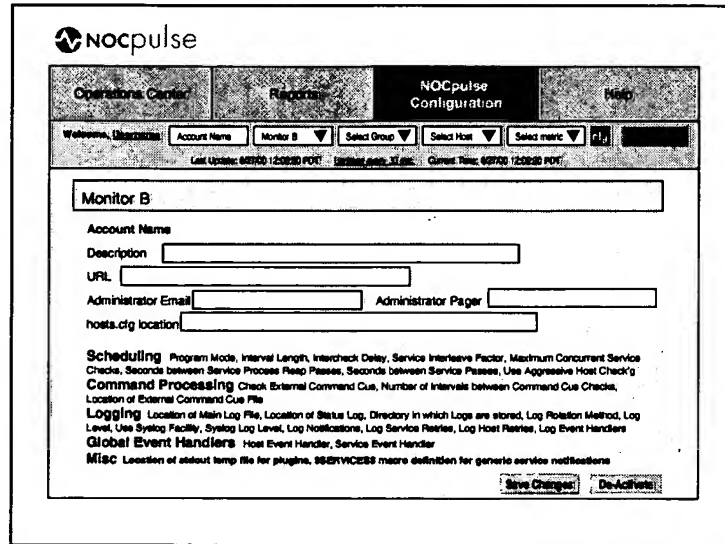


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## **[Account Management Options]**

<i>Action</i>	<i>Result</i>
1. Click Time Period Definitions	Displays Time Period Window
2. Click Asset Management	Displays Asset Management Window

## Monitor Administration Form



### Context (Permission: NP Admin only)

This form displays in the work area when you select an option from the Monitor selection drop-down list. If you select a specific monitor, data for that monitor will populate the form; the button at the bottom of the form will read "Save Changes". Host Group, Host, and Scout selection lists will be filtered to show only those options appropriate for the selected monitor. If you select the "Add New Monitor" option, a blank form will display with a "Save" button at the bottom.

NOTE: Customer admins will not see this form. They will be able to select a specific monitor from the selection list (in order to filter Host and Scout lists with appropriate options), but they will not see an "Add New Monitor" option, and the Edit Monitor form will not display.

### Contents

#### Header

Monitor Name  
Monitor Location  
Update Confirmation Message

#### Account Form

Account Name	Read-only display of current account name
Description	Editable text field
Administrator contact info	Email & Pager text fields
.cfg file location	Editable text field
Scheduling	program mode, interval length, intercheck delay, service interleave factor, maximum concurrent service checks, seconds between service process reap passes, seconds between service passes, use aggressive host checking
Command Processing	check external command cue, number of intervals between command cue checks, location of external command cue file

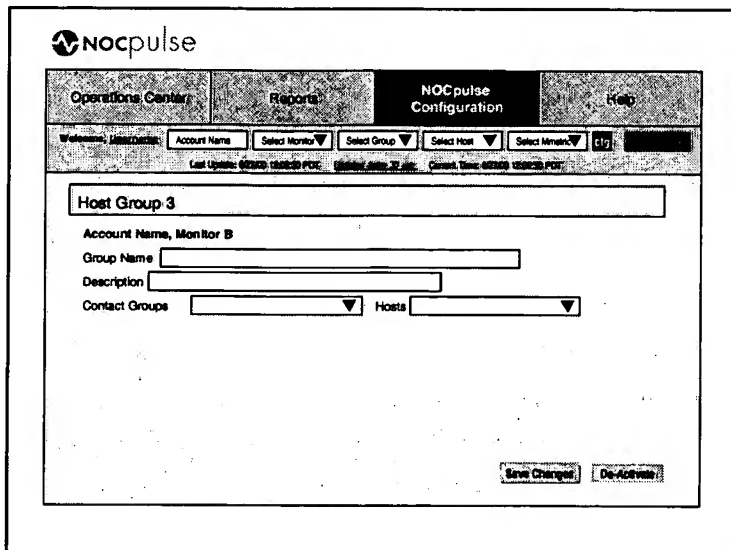


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Logging	location of main log file, location of status log, directory in which logs are stored, log rotation method, log level, use syslog facility, syslog log level, log notifications, log service retries, log host retries, log event handlers
Global Event Handlers	host event handler, service event handler
Misc	location of stdout temp file for plugins \$SERVICES\$ macro definition for generic service notifications
Buttons	Save/Save Changes De-Activate

## Monitor Form Interaction

Action	Result
1. Enter text, select options from lists	
2. Click Save/Save Changes button	Saves new record or modifications and displays confirmation message in header
3. Click De-Activate button	Displays confirmation message in header Buttons change to "Return to Account Form" and "Re-Activate"

## Group Administration Form



The screenshot shows the NOCpulse Group Administration Form. At the top, there's a navigation bar with 'Operations Center', 'Reports', 'NOCpulse Configuration', and 'Help'. Below this is a 'Welcome, [User]' message and a row of buttons: 'Account Name', 'Select Monitor', 'Select Group', 'Select Host', and 'Select Member'. A status bar shows 'Last Update: 6/23/2010 10:50:00 PM' and 'Current Time: 6/23/2010 10:50:00 PM'. The main form area is titled 'Host Group 3' and contains the following fields: 'Account Name, Monitor B' (read-only), 'Group Name' (editable text field), 'Description' (editable text field), 'Contact Groups' (selection list), and 'Hosts' (selection list). At the bottom right, there are two buttons: 'Save Changes' and 'De-Activate'.

### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you select an option from the Group selection drop-down list. If you select a specific host group, data for that group will populate the form; the button at the bottom of the form will read "Save Changes". Host and Scout selection lists will be filtered to show only those options appropriate for the selected group. If you select the "Add New Group" option, a blank form will display with a "Save" button at the bottom.

### Contents

#### Header

Group Name  
Update Confirmation Message

#### Group Form

Account Name	Read-only display of current account name
Monitor Name	Read-only display of current monitor name
Group Name	Editable text field
Description	Editable text field
Contact Groups	Selection list
Hosts	Selection list
Buttons	Save/Save Changes De-Activate

### Group Form Interaction

Action	Result
1. Enter text	
2. Select Contact Group(s) from list	Group(s) remain highlighted in list
3. Select Host(s) from list	Host(s) remain highlighted in list
4. Click Save/Save Changes button	Displays confirmation message in header





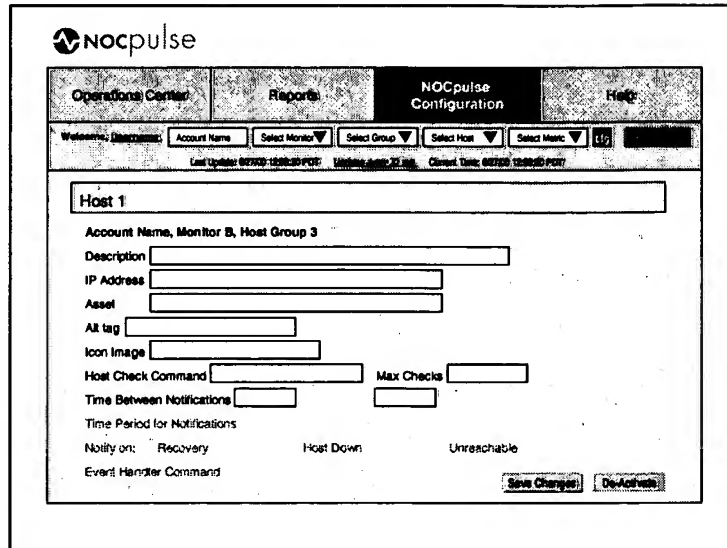
5. Click De-Activate button

Draft Version Only

Displays confirmation message in header

Buttons change to "Return to Account Form"  
and "Re-Activate"

## Host Administration Form



### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you select an option from the Host selection drop-down list. If you select a specific host, data for that host will populate the form and the Scout selection list will be filtered to show only those options appropriate for the selected host. If you select the "Add New Host" option, a blank form will display with a "Save" button at the bottom.

### Contents

#### Header

Host Name  
Update Confirmation Message

#### Host Form

Account Name	Read-only display of current account name
Monitor Name	CUSTOMER: Read-only display
	NP Admin: Selection list
Group Name	Selection list displays current group
Host Name	Editable text field
Description	Editable text field
IP Address or FQDN	Editable text field
Asset	Editable text field
Alt Tag	Editable text field
Icon Image	Selection list
Host Check Command	Selection list
Max Checks	Editable text field
Time Units btwn Notif.	Editable text field
[Time Period for Notif.]	<b>NP Admin Only:</b> Selection list
[Notify on Recov, Down, Un]	<b>NP Admin Only:</b> Selection list
[Event Handler]	<b>NP Admin Only:</b> Selection list
Buttons	Save/Save Changes   Delete Configuration

### Host Form Interaction

Action	Result
1. Enter text, select options from lists	



2. Click Save Changes button
3. Click De-Activate button

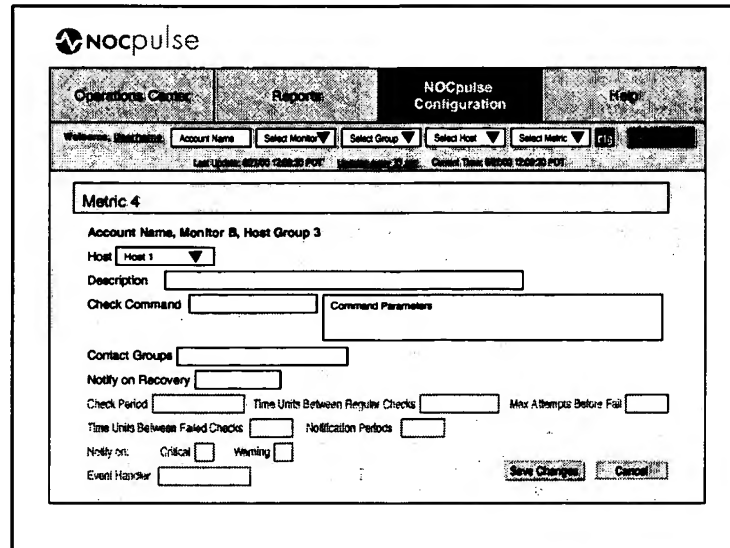
Draft Version Only

Displays confirmation message in header

Displays confirmation message in header

Buttons change to "Return to Account Form" and "Re-Activate"

## Scouts Administration Form



### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you select an option from the Scout selection drop-down list. If you select a specific scout, data for that scout will populate the form. If you select the "Add New Scout" option, a blank form will display with a "Save" button at the bottom.

### Contents

#### Header

Scout Name  
Update Confirmation Message

#### Scout Form

Account, Monitor, Group	Read-only display
Host	Selection list
Description	Editable text field
Contact Groups	Selection list
Notify on Recovery	Selection list
Check Command	Selection list
Parameters	dependent on selected command
Check Period	Selection list
Time Units btwn Reg Checks	Editable text field
Max Attempts before Fail	Editable text field
Time Units btwn Failed Chks	Editable text field
Time Period for Notif.	Selection list
Notify on Critical	Selection list
Notify on Warning	Selection list
Event Handler Command	Selection list
Buttons	Save/Save Changes   De-Activate

### Scout Form Interaction

Action	Result
1. Enter text, select options from lists	Modify record



2. Click Save Changes button
3. Click De-Activate button

Activate"

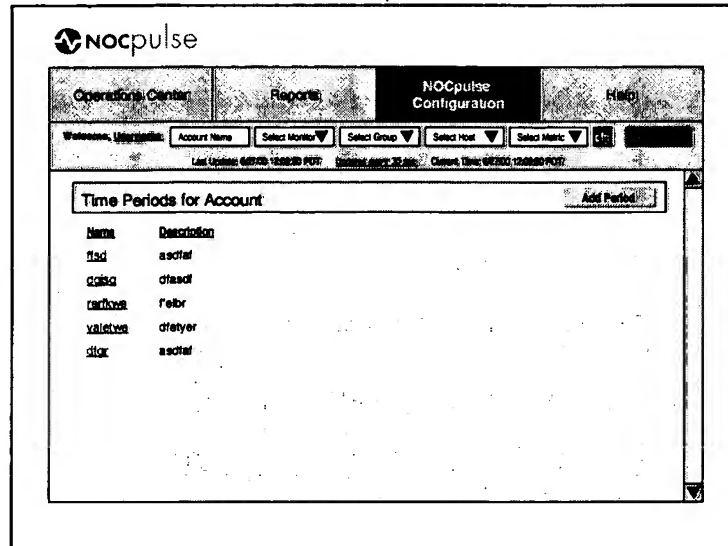
Draft Version Only

Displays confirmation message in header

Displays confirmation message in header

Buttons change to "Return to Account Form" and "Re-

## Time Period List



### Context (Permission: NP Admin, Customer Admin)

This list displays in the work area when you click the "Time Period Definitions" button on the Account screen.

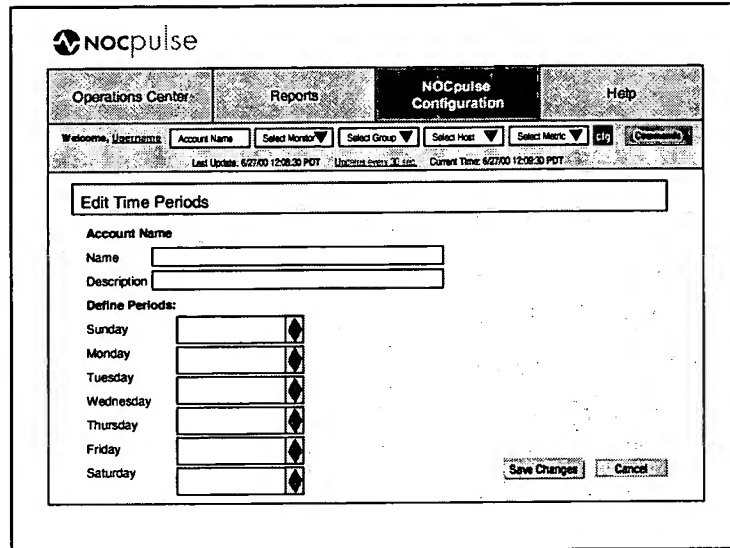
### Contents

<b>Header</b>	Account Name	
	Add Period button	
<b>User List</b>	Name	hyperlink
	Description	read-only display

### User List Interaction

Action	Result
1. Click Add Period button	Displays blank Time Period Form in the work area.
2. Click Name hyperlink	Displays Time Period Form in the work area with data for selected group

## Time Period Form



### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you drill down on a time period hyperlink or click the "Add Period" button on the Time Period List header.

### Contents

<b>Header</b>	Time Period Name	
	Update Confirmation Message	
<b>Time Period Form</b>	Account Name	Read-only display
	Time Period Name	Editable text field
	Description	Editable text field
	Time Period Definitions	Editable text fields
	Buttons	Save/Save Changes   De-Activate

### Time Period Form Interaction

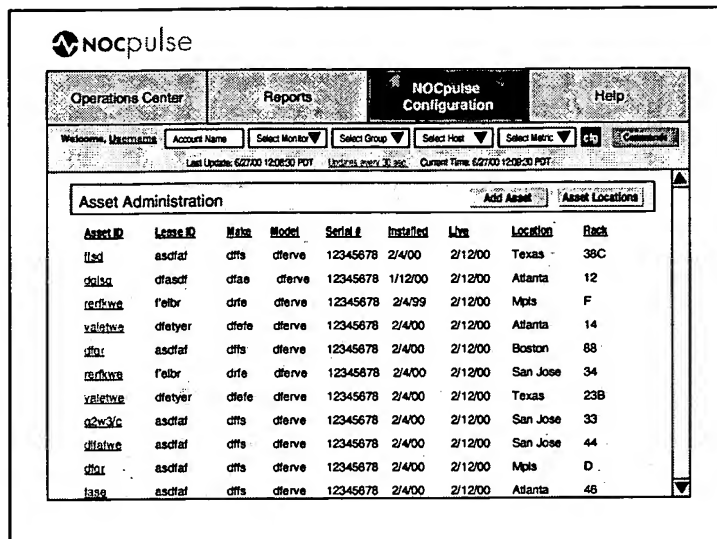
Action	Result
1. Enter text	
2. Click Save button	Returns to Time Period list with new group
3. Click Save Changes button	Displays confirmation message in header
4. Click De-Activate button	Displays confirmation message in header
	Buttons change to "Return to Time Period list" and "Re-Activate"



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## Asset List



Asset ID	Lease ID	Make	Model	Serial #	Installed	Live	Location	Rack
llsd	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	Texas	38C
dlisa	dftadl	dftae	dferve	12345678	1/12/00	2/12/00	Atlanta	12
refkwa	f'elbr	drie	dferve	12345678	2/4/99	2/12/00	Mpls	F
valstwe	dftetyer	dftefe	dferve	12345678	2/4/00	2/12/00	Atlanta	14
dfta	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	Boston	88
refkwa	f'elbr	drie	dferve	12345678	2/4/00	2/12/00	San Jose	34
valstwe	dftetyer	dftefe	dferve	12345678	2/4/00	2/12/00	Texas	23B
qdw3/c	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	San Jose	33
dftatwe	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	San Jose	44
dfta	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	Mpls	D
lase	asclaf	dfts	dferve	12345678	2/4/00	2/12/00	Atlanta	46

### Context (Permission: NP Admin, Customer Admin)

This list appears in the work area when you click the "Asset Management" button on the Account screen.

### Contents

Header	Account Name	
	Add Asset button	
	[Asset Location button]	NP Admin ONLY
Asset List	Asset ID	hyperlink
	Lease ID	read-only display
	Make	read-only display
	Model	read-only display
	Serial Number	read-only display
	Installation Date	read-only display
	Live Date	read-only display
	Location ID	hyperlink [NP Admin only]
	Rack Location	read-only display

### User List Interaction

Action	Result
1. Click Add Asset button	Displays blank Asset Form in the work area.
2. [Click Asset Location button] area	NP Admin ONLY: displays Asset Location list in work
3. Click Asset ID hyperlink	Displays Asset Form in the work area with data for selected asset

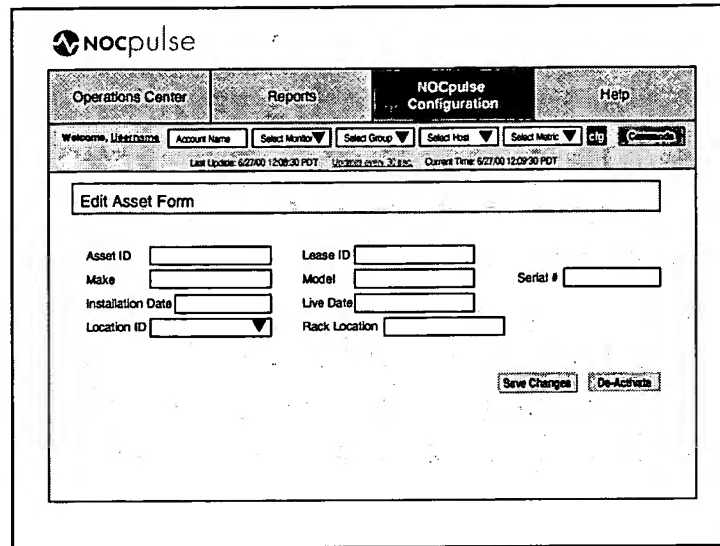


4. [Click Location ID hyperlink]

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**NP Admin ONLY:** displays Asset Location Form in the work area with data for the selected location

## Asset Form



### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you drill down on an asset ID hyperlink or click the "Add Asset" button on the Asset List header.

### Contents

<b>Header</b>	Account Name	
	Update Confirmation Message	
<b>Asset Form</b>	Asset ID	Editable text field
	Lease ID	Editable text field
	Make, Model, Serial #	Editable text fields
	Installation, Live Dates	Editable text fields
	Location ID	Selection list
	Rack Location	Editable text field
	Buttons	Save/Save Changes   De-Activate

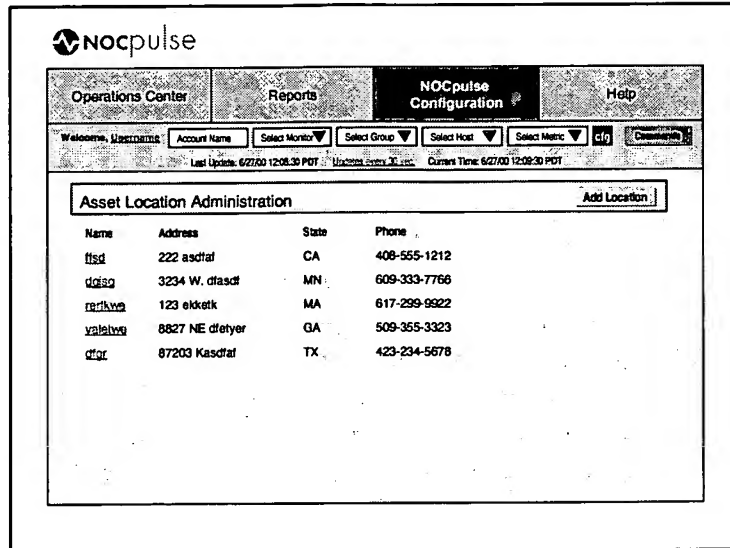
### Asset Form Interaction

Action	Result
1. Enter text	
2. Click Save button	Returns to Asset list with new asset displayed in list
3. Click Save Changes button	Displays confirmation message in header
4. Click De-Activate button	Displays confirmation message in header
	Buttons change to "Return to Asset List" and "Re-Activate"



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## Asset Location List



Name	Address	State	Phone
ftsd	222 asdfat	CA	408-555-1212
dfasg	3234 W. dfasdf	MN	609-333-7766
erfkwa	123 elkskf	MA	617-299-9922
valslwa	8827 NE dfetyer	GA	509-355-3323
dfgr	87203 Kasdfat	TX	423-234-5678

### Context (Permission: NP Admin only)

This list displays in the work area when a NOCpulse administrator clicks the Asset Location button in the Asset List header.

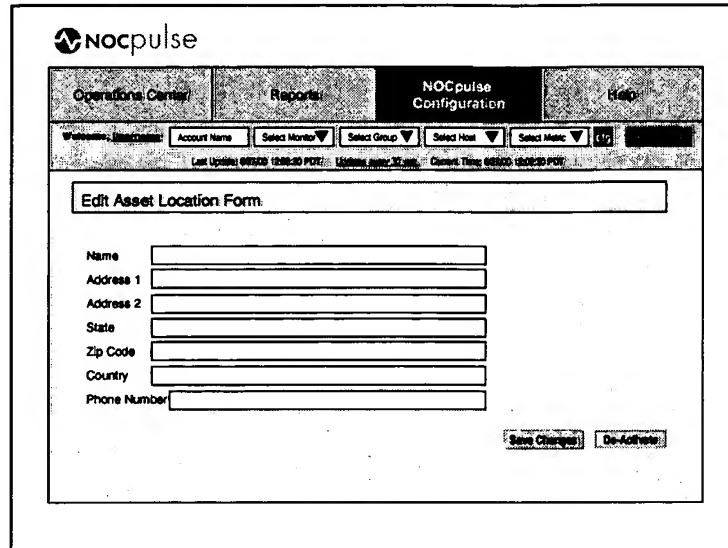
### Contents

Header	Account Name	
	Page Heading	
	Add Location button	
Asset Location List	Location Name	hyperlink
	Address	read-only display
	State	read-only display
	Phone	read-only display

### Asset Location List Interaction

Action	Result
1. Click Add Location button	Displays blank Asset Location form in work area
2. Click Location Name hyperlink	Displays Asset Location form with data for selected location

## Asset Location Form



### Context (Permission: NP Admin)

This form displays in the work area when you drill down on an asset location hyperlink or click the “Add Location” button on the Asset List header.

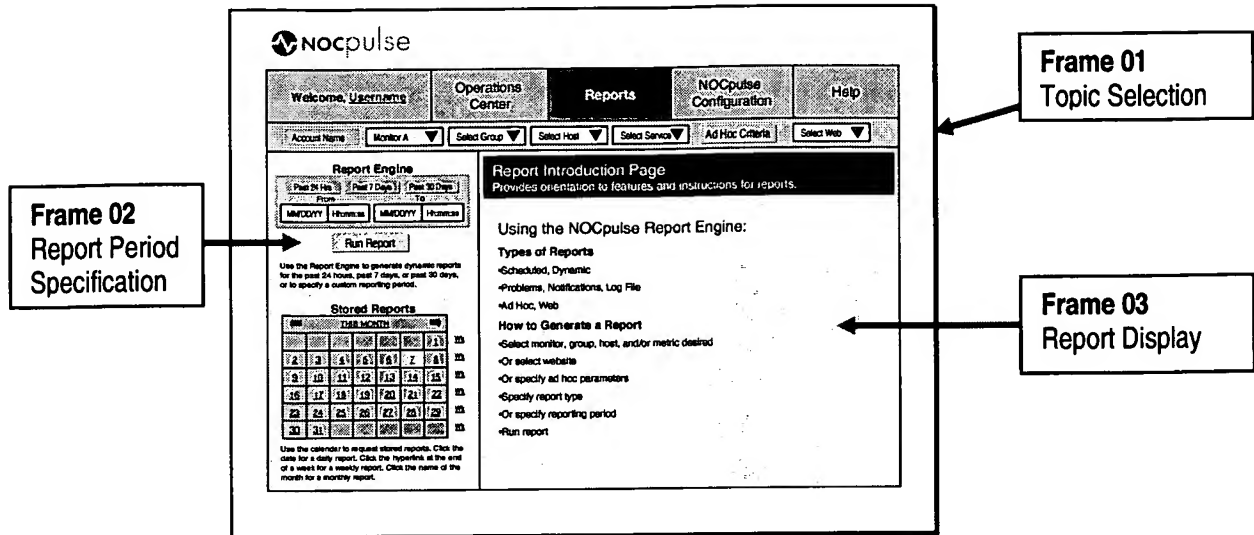
### Contents

<b>Header</b>	Account Name	
	Update Confirmation Message	
<b>Asset Location Form</b>	Location Name	Editable text field
	Address 1	Editable text field
	Address 2	Editable text fields
	City	Editable text fields
	State	Selection list
	Zip Code	Editable text field
	Phone Number	Editable text field
	Buttons	Save/Save Changes   De-Activate

### Asset Location Form Interaction

Action	Result
1. Enter text	
2. Click Save button displayed	Returns to Asset Location List with new location
3. Click Save Changes button	Displays confirmation message in header
4. Click De-Activate button	Displays confirmation message in header
	Buttons change to “Return to Asset List” and “Re-Activate”

## Reports Tab



### Context

Authorized users can access the Reports module from anywhere in the system by clicking on the Reports tab on the Navigation Bar. The basic application interface consists of three principle components: a topic selection bar [Frame 01], a time period specification panel [Frame 02], and a report display panel [Frame 03].

The default view opens with an introduction/instruction message in the display panel.

### Contents

#### Topic Selection Bar

	Account Name	Read-only display
	Monitor	Selection list
	Select Group	Selection list, filtered by Monitor
Select Host	Select Host	Selection list, filtered by Monitor/Group
	Select Service	Selection list, filtered by Host selection
	Ad Hoc Criteria button	Hyperlink to Ad Hoc Criteria form
	Select Web	Selection list

#### Time Specification Panel

Report Engine	Past 24 hrs   Past 7 days   Past 30 days buttons Range Selector (defaults to Past 24 Hrs.) Format: DD/MM/YY hh/mm/ss Run Report (submit button)
Calendar Selector	Highlight indicates current date Arrows for month selection Hyperlinks to stored reports Hyperlinks for week selection
Time Spec instructions	Text

## Report Display Panel

Header  
Data Display

Report Title, Date, Range  
Orientation/Instruction text

### Selection Bar Interaction

<i>Action</i>	<i>Result</i>
1. Click Monitor selection list	Displays available Monitors Select a Monitor to enable Group and Host menus Group and Host options are filtered by Monitor selection
2. Click Group selection list	Displays available Groups Select a Group to enable Service menu Host and Service options are filtered by Group selection
3. Click Host selection list	Displays available Hosts Select a Host to enable Service menu Service options are filtered by Host selection
4. Click Service selection list	Displays available Services Select a service to restrict the report to a specific service on a specific host
5. Click Ad Hoc Criteria button	Displays Ad Hoc Criteria form in the Display Area
6. Click Web selection list	Displays a list of URLs Select a URL for web trend analysis

### Time Specification Panel

<i>Action</i>	<i>Result</i>
• Click Run Report button	Generates a report based on current topic selections and time parameter specifications (defaults to Past 24 Hrs) Displays requested report in Display Area
• Enter Start/End parameters	Defines start/end dates and times for custom period Data format: MM/DD/YY hh:mm:ss Defaults to past 24 hours Report displays on clicking Run Report button <i>Dynamic Report message displays as report loads</i>
• Click Past 24 Hrs button	Automatically populates Start/End parameter fields Starts 24 hours before current time
• Click Past 7 Days button	Automatically populates Start/End parameter fields Starts 7 days before current time
• Click Past 30 Days button	Automatically populates Start/End parameter fields Starts 30 days before current time
• Click Month Selection arrows	Displays Next or Previous Month
• Click Month hyperlink	Displays dynamic Month-to-date Report for current month or stored Monthly Report for historical months





Draft Version Only

*Dynamic Report message displays as Month-to-date report loads*

- Click Date hyperlink

Displays dynamic Past 24 Hr Report for current day or stored Daily Report for historical dates

*Dynamic Report message displays as dynamic report loads*

- Click Week hyperlink

Displays dynamic Week-to-Date Report for current week or stored Weekly Report for historical weeks

*Dynamic Report message displays as Week-to-Date report loads*

## Report Display Panel

<i>Action</i>	<i>Result</i>
• Click Export button	Exports data from report as CSV file
• Click Print button	Prints Report Display frame
• Read instructions	Select topic and time parameters for report

## Issues

Calendar Widget

Resource requirement: 2 people x 2 weeks?

Phase 1 Alternative in consideration (see next page)

Groups

Will groups be required? Will host list be unmanageable without groups?

Services

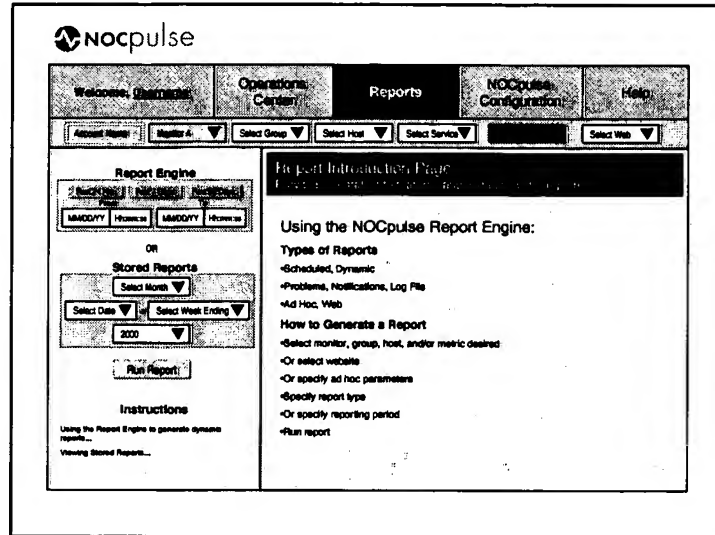
Maximum number of groups per monitor: 255

Service list available when group is selected?

Generic list of services or services listed by host?

Backward filter: choose (generic) service to filter host list to show only host running selected service?

## Alternate Time Specification Mechanism



### Context

If the calendar widget proves to be outside the implementation scope of this phase, the following specification outlines an alternative structure for the time specification functionality.

### Contents

Topic Selection Bar unchanged

#### Time Specification Panel

Report Engine	Past 24 hrs   Past 7 days   Past 30 days buttons Range Selector (defaults to Past 24 Hrs.) Format: DD/MM/YY hh/mm/ss
Stored Reports	Month Selection list Date Selection list (select date OR week) Week Selection list (select date OR week) Year Selection List (defaults to current year)
Run Report button	Submit button
Ad Hoc Report instructions	Text
Specify Criteria button	Hyperlink to Ad Hoc Report form

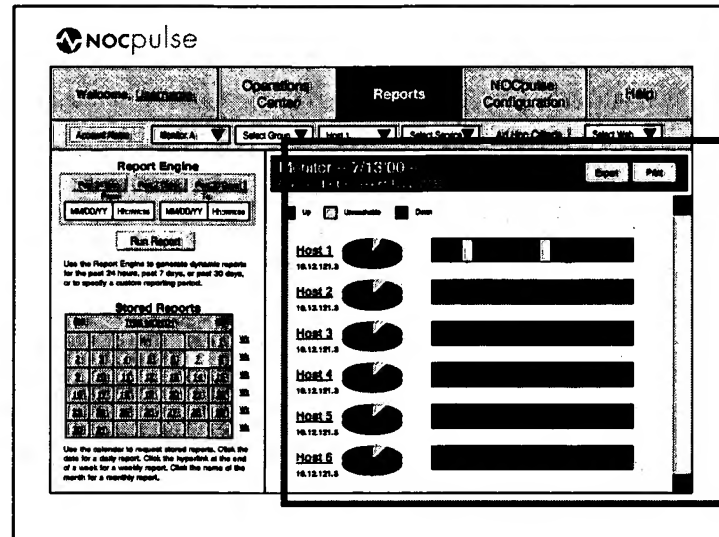
### Time Specification Interaction

Action	Result
NOTE: User may choose either the Report Engine or the Stored Report Selector to specify time period	



- |                             |                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------|
| 1. Click Period button      | Draft Version Only<br>Displays past 24 hrs, past 7 days, or past 30 days in Range fields |
| 2. Enter dates and/or times | Overrides default or current date/time settings                                          |
| 3. Select Month             | Specifies month for report<br>Filters Date and Week options by selected month            |
| 4. Select Date              | (optional) Specifies date for report                                                     |
| 5. Select Week Ending date  | (optional) Specifies week for report                                                     |
| 6. Select Year              | Specifies year for report                                                                |
| 7. Click Run Report button  | Generates a report based on selected parameters.                                         |

## Monitor Report



Monitor Report

## Context

This report is not an eFORCE deliverable for this phase, but is included to illustrate the complete architecture and functionality of the interface. Until this report is available, the Monitor list will only serve to select the desired monitor and filter the Group and Host lists. The Run Report button and Stored Reports will remain inactive until a specific host is selected.

This report populates the display area when the user selects a Monitor from the drop-down list and a) specifies a reporting period and clicks the "Run Report" button or b) clicks a hyperlink for a stored report on the calendar selector.

## Contents

### Header

Monitor Name  
Date  
Report Period  
Export Button  
Print button

### Monitor Info

List of all Hosts on Monitor. For each Host:

Host Name

hyperlink displays Host Overview Report  
Alt tag defines status thresholds

IP Address

Availability Pie Chart

Up/Down/Unreachable

Alt tag displays percentage numbers for each status

Status Over Time

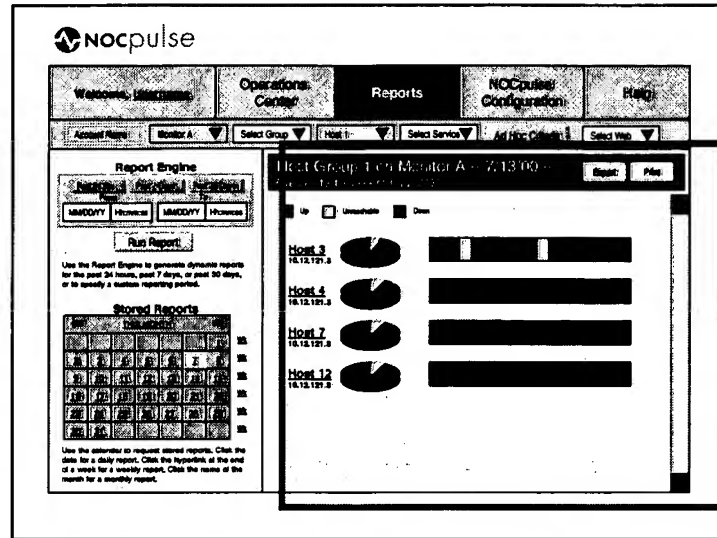
Color-coded bar chart

Alt tag displays start & end times for each segment

## Header Interaction

<i>Action</i>	<i>Result</i>
NOTE: These functions are common to all report screens.	
1. Click Export button	Generates data file in CSV format
2. Click Print button	Prints current frame

## Host Group Report



Host  
Group  
Report

### Context

This report is not an eFORCE deliverable for this phase, but is included to illustrate the complete architecture and functionality of the interface. Until this report is available, the Group list will only serve to select the desired group and filter the Host list. The Run Report button and Stored Reports will remain inactive until a specific host is selected.

This report populates the display area when the user selects a Host Group from the drop-down list and  
a) specifies a reporting period and clicks the "Run Report" button or  
b) clicks a hyperlink for a stored report on the calendar selector.

### Contents

#### Header

Host Group Name  
Monitor Name  
Date  
Report Period  
Export button  
Print button

#### Group Info

List of Hosts in Group. For each host:

Host Name

hyperlinks to Host Overview Report

Alt tag defines status thresholds

Availability Pie Chart

Up/Down/Unreachable

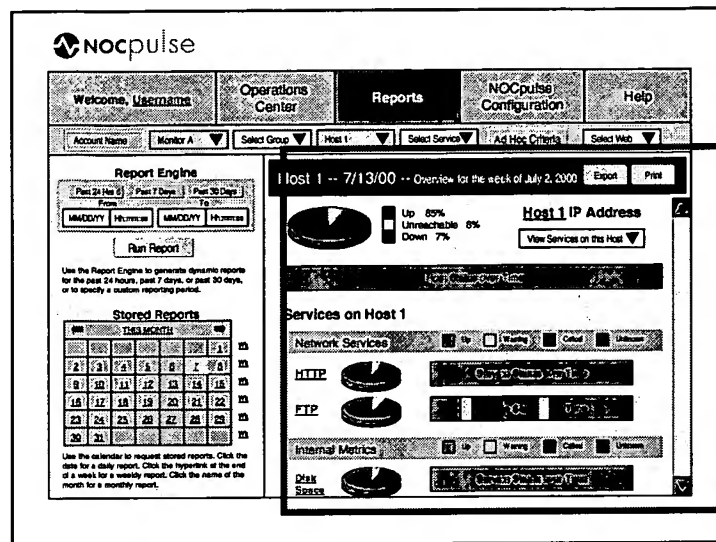
Alt tag displays percentage numbers for each status

Status Over Time

Color-coded bar chart

Alt tag displays start & end times for each segment

## Host Overview Report



Host  
Overview  
Report

### Context

This report populates the display area when the user selects a Host from the drop-down list and  
a) specifies a reporting period and clicks the "Run Report" button or  
b) clicks a hyperlink for a stored report on the calendar selector.

### Contents

<b>Header</b>	Host Name, Date, Period, Export button, Print button	
<b>Host Info</b>	Host Name	hyperlink displays Host Detail Report
	IP Address	Alt tag defines status thresholds
	Availability Pie Chart	Up/Down/Unreachable Alt tag displays percentage numbers for each status
	Availability Table	Color key   Status   Percentage
	View Service Info	Selection list hyperlinks to anchors in service list
<b>Scout Info</b>	Status Over Time	Color-coded bar chart Alt tag displays start & end times for each segment
	<i>Scouts are organized into Network Services and Internal Metrics sub-categories</i>	
	Status Key	Defines color code for charts
	Service Name	hyperlink displays Service Detail Report Alt tag defines status thresholds



Draft Version Only

Availability Pie Chart

Up/Warning/Critical/Unknown

Alt tag displays percentage numbers for each status

Status Over Time

Color-coded bar chart

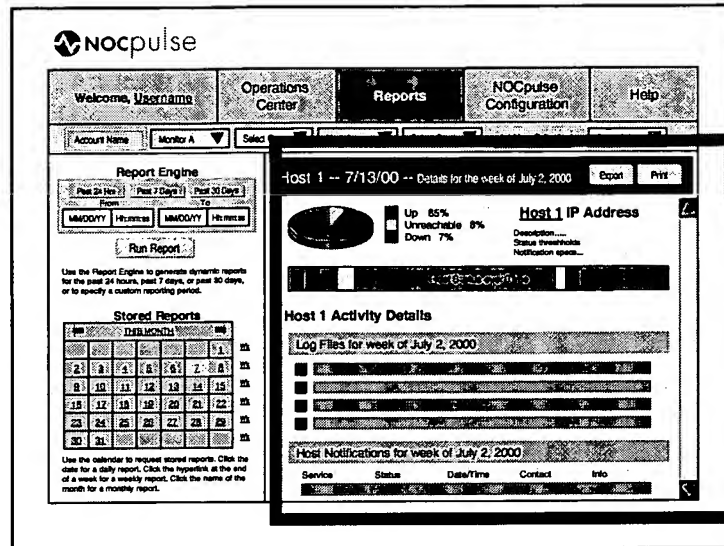
Alt tag displays start & end times for each segment

## Header Interaction

<i>Action</i>	<i>Result</i>
NOTE: These functions are common to all report screens.	
1. Click Export button	Generates data file in CSV format
2. Click Print button	Prints current frame



## Host Detail Report



Host  
Detail  
Report

### Context

This report populates the Display Area when the user drills down on the Host Name hyperlink on the Host Overview Report.

### Contents

#### Header

Host Name  
Date  
Report Period  
Export button  
Print button

#### Host Info

Host Name  
IP Address  
Additional info

hyperlink displays Host Detail Report

Availability Pie Chart  
Availability Table  
Status Over Time

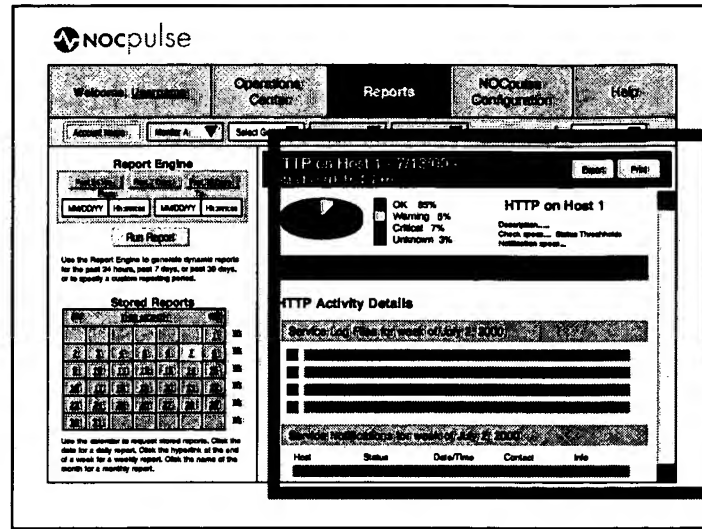
Description, Notification specifications  
Status threshold values  
Up/Down/Unreachable  
Color key | Status | Percentage  
Color-coded bar chart

#### Activity Info

Host Log File  
Host Notifications

Log file for specified time period  
Host notifications for specified period

## Service Detail Report



Service  
Detail  
Report

### Context

This report populates the Display Area when the user drills down on a Service Name hyperlink on the Host Overview Report or selects a Service from the Service selection list in the topic bar.

### Contents

#### Header

Service Name  
Date  
Report Period  
Export button  
Print button

#### Host Info

Service Name  
Host Name  
Additional info

hyperlink displays Host Overview Report  
Description, Check specifications,  
Status threshold values  
Notification specifications

Availability Pie Chart

Up/Warning/Critical/Unknown  
Alt tag indicates time in each status?  
Color key | Status | Percentage | Time?  
Color-coded bar chart

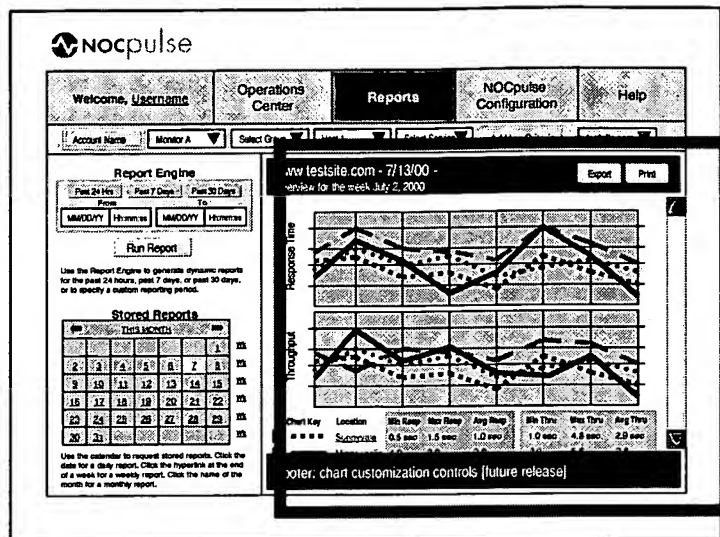
Availability Table  
Status Over Time

#### Activity Info

Service Log File  
Service Notifications

Service log for specified time period  
Service notifications for specified period

## Web Trend Report



Web  
Trend  
Report

### Context

This report populates the Display Area when the user selects a URL from the Web drop-down list and (a) clicks a day, week, or month on the calendar or (b) enters a date/time range in the "From" and "To" boxes and clicks the "Run Report button".

### Contents

#### Header

URL  
Date  
Report Period  
Export button  
Print button

#### Line Graphs

Response Time (seconds) over Report Period  
(day|week|month|custom)  
Multiple reporting agents on single chart  
Throughput (k/sec) over Report Period  
(day|week|month|custom)  
Multiple reporting agents on a single chart

#### Data Table

For each reporting location:  
Check box Selects location for custom report  
Color Code Identifies location line on chart  
Location name hyperlink to detail chart  
Minimum Response Time in hundredths of a second  
Maximum Response Time in hundredths of a second  
Average Response Time in hundredths of a second



Draft Version Only

Minimum Throughput in k/sec

Maximum Throughput in k/sec

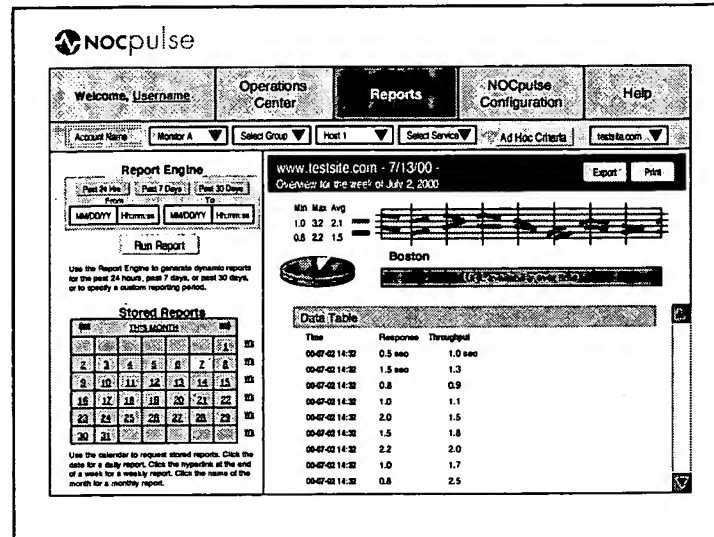
Average Throughput in k/sec

**Footer**

Customization controls [future phase]

Scale y-axis to clip spikes  
other custom views

## Web Agent Report



## Context

This report populates the Display Area when the user drills down on a reporting agent from the Web Trend Report.

## Contents

### Header

URL  
Date  
Report Period  
Export Button  
Print button

### Line Graph

Response time over reporting period  
Throughput over reporting period

### Min/Max/Avg Table

Minimum, Maximum, and Average response times over reporting period  
Minimum, Maximum, and Average throughput over reporting period

### Availability Pie

Up, Down, Unreachable percentages

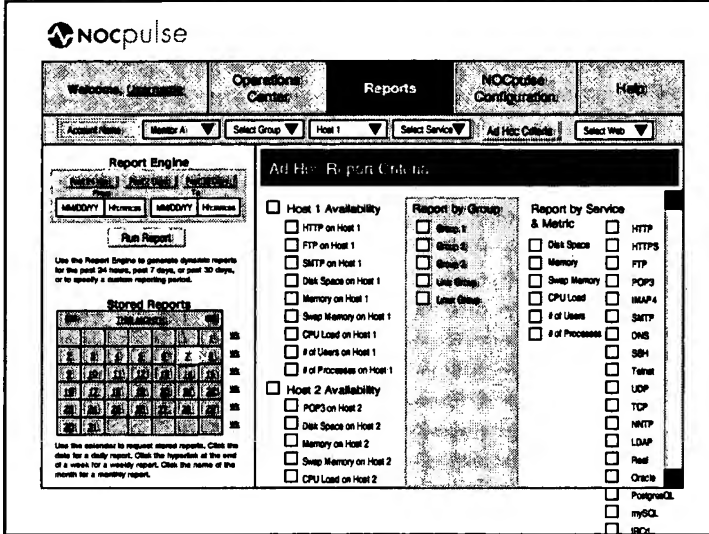
### Availability Table

Up, Down, Unreachable percentages & color key

### Response Time Table

Date & Time Stamp, Response Time, Throughput

## Ad Hoc Criteria Form



### Context

The user clicks the Specify Criteria button in the Time Specification panel. The Ad Hoc Report Criteria form appears in the Display Area.

### Contents

Header	Page Title	
Host Checklist	Host Accesibility Host Services	checkbox for each host on monitor checkbox for each service on each host
Group Checklist	Group List	checkbox for each group on monitor
Service Checklist	Network Services Internal Metrics	checkbox for each network service checkbox for each internal metric

### Form Interaction

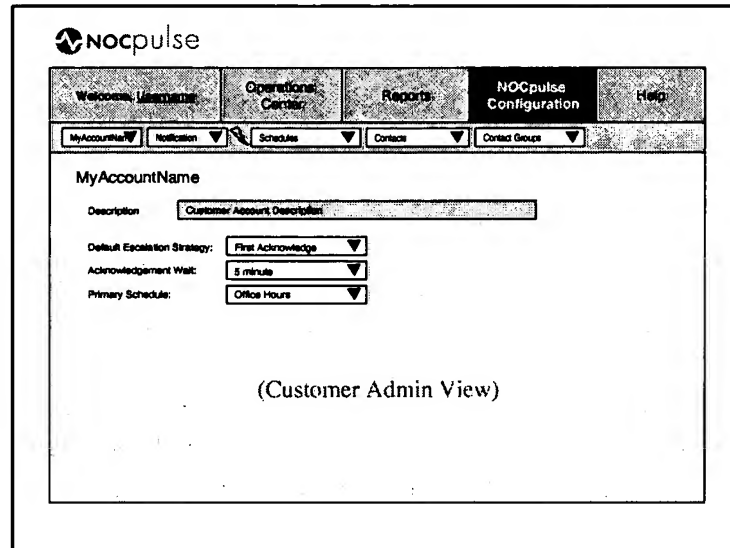
Action	Result
1. Check item(s) on Host list	Select item(s) for inclusion on report
2. Check item(s) on Group list in selected group	Automatically checks boxes for all hosts & services
3. Check item(s) on Service list on all available hosts	Automatically checks boxes for selected service(s)
4. Uncheck item	Deselects item; will not be included in report

**Issues**

Save Report Criteria    Affordance of a capability to save ad hoc queries would be desirable.  
Coding issues for save capability?  
Will also require a selection mechanism for saved criteria sets

## Configuring Notifications (Telamon)

This section describes the user interface for the notification configuration functionality of the NOCpulse IOSS.



### Context (Permission: NP Admin, Customer Admin)

This screen displays in the work area when you select "Configure Notifications" from the Select Function list.

### Contents

<b>Local Navigation Bar</b>	Account Name	CUSTOMERS: read-only display NOCPULSE: selection list of all accounts
	Function	Set to Configure Notifications
	Schedules	Selection list
	Contacts	Selection list, filtered by account
	Contact Groups	Selection list, filtered by account
<b>Page Header</b>	Same as Configure Monitoring page	
<b>Form Fields</b>	Same as Configure Monitoring page	

### Navigation Interaction

Action	Result
1. Select a schedule from list	Displays selected schedule in the Schedule form in Work Area "List All" option displays a list of all schedules NP ONLY: "Create New" option displays blank form
2. Select a contact from list	Displays selected contact record in the Contact form "List All" option displays a list of all contacts "Create New Contact" option displays a blank form



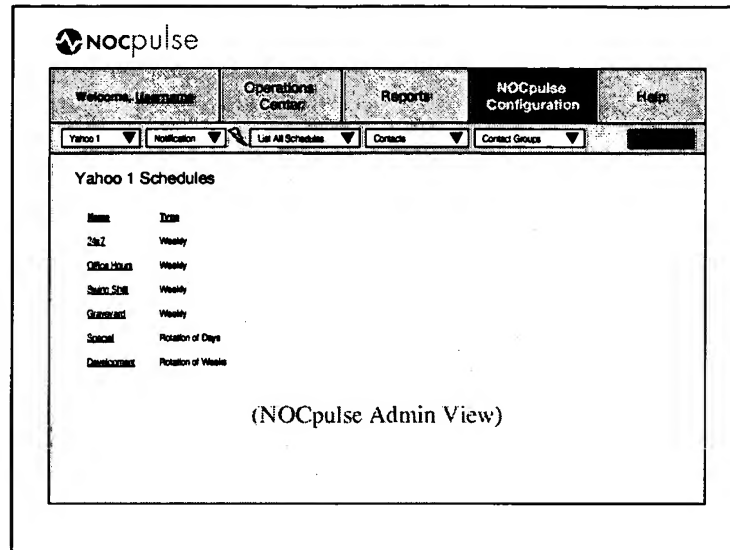


3. Select a contact group from list
- Draft Version Only  
Displays Contact Group form with data for selected group  
"List All Groups" option displays a list of all contact groups  
"Create New Group Option" option displays a blank form

### **Account Form Interaction**

Same as Configure Monitoring page

## Schedule List



### Context

The Schedule List screen displays when the user selects "List All Schedules" from the Schedule selection list.

### Contents

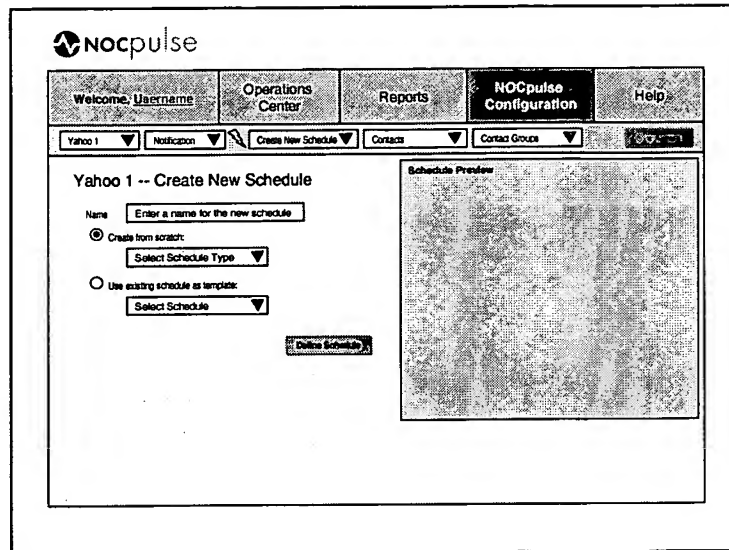
**Page Header**  
**Schedule List**

(Account Name) + Schedules  
Schedule Name                      hyperlink to record  
Schedule Type                      read-only display

### Interaction

<i>Action</i>	<i>Result</i>
1. Click Schedule Name hyperlink	Displays Schedule form with selected schedule data

## Create New Schedule



### Context

This screen displays when the user selects the "Create New Schedule" option from the Schedule selection list.

### Contents

<b>Define Schedule Form</b>	Name	Editable text field
	Create from scratch	Radio button
	Select Schedule Type	Drop-down list
	Use schedule as template	Radio button
	Select Schedule	Drop-down list
	Define Schedule	Submit button

### Interaction

Action	Result
1. Enter text in Name field	defines name for schedule
2. Click radio button	specifies whether user wishes to create a schedule from scratch or use an existing schedule as a template
<i>Create from scratch</i>	requires the user to select from 3 types: Weekly, Rotation of Days, Rotation of Weeks
<i>Use schedule as template</i>	allows the user to select from a list of pre-defined schedules;
	a copy of the selected schedule opens without a name in the appropriate schedule form
3. Select list option	specifies a schedule type or a template to be used
	specified form loads in Work Area when user clicks



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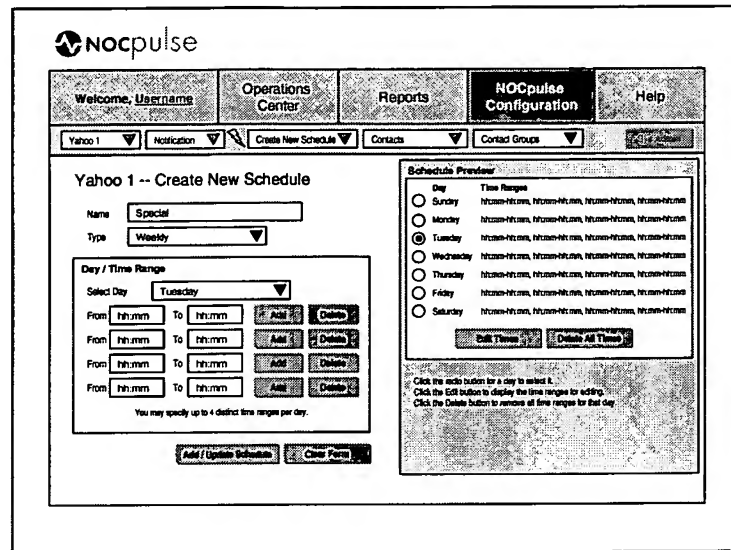
**Define Schedules button**

automatically activates the associated radio button  
if neither button has been selected previously

4. Click Define Schedules button

Displays Schedule form for selected schedule or  
schedule type

## Weekly Schedule Form



### Context

This form displays when the user selects “Weekly” from the Schedule Type drop-down list and clicks Define Schedule.

### Contents

Page Header	(Account Name) + Create New Schedule
	Schedule Name
	Schedule Type
Day/Time Range	Day
	From
	To
	Add   Delete
Add/Update Schedule	Submit button
Clear Form	Reset button
Schedule Preview	7 days
	Edit Times
	Delete All Times

### Interaction

Action	Result
1. Select Day	Name displays in Name field
2. Enter time ranges	Enter up to four ranges per day
3. Click Add or Delete	Adds or deletes time range
4. Click Add/Update Schedule	Commits changes to database
5. Clear Form	Clears all fields, including Name and Schedule Type



6. Click radio button in Preview
7. Click Edit Times
8. Click Delete All Times

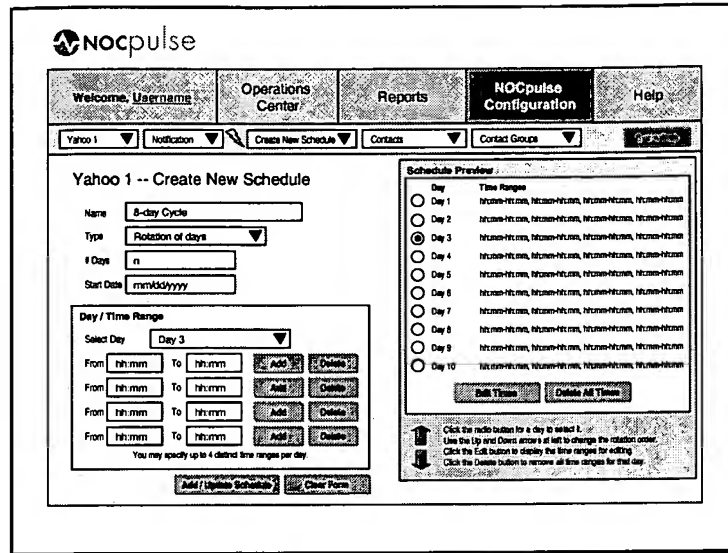
Draft Version Only

Selects day for editing

Displays selected day in Day/Time Range form

Deletes all times for selected day

## Rotation of Days Schedule



The screenshot shows the NOCpulse web interface. The top navigation bar includes 'Welcome, Username', 'Operations Center', 'Reports', 'NOCpulse Configuration', and 'Help'. Below this is a secondary bar with 'Yahoo 1', 'Notification', 'Create New Schedule', 'Contacts', 'Contact Groups', and 'Groups'. The main content area is titled 'Yahoo 1 -- Create New Schedule'. It contains several input fields: 'Name' (set to '8-day Cycle'), 'Type' (set to 'Rotation of days'), '# Days' (set to 'n'), and 'Start Date' (format 'mm/dd/yyyy'). A 'Day / Time Range' section allows selecting a day (currently 'Day 3') and defining time ranges with 'From' and 'To' fields (format 'hh:mm'), 'Add', and 'Delete' buttons. A 'Schedule Preview' on the right shows a list of days (Day 1 to Day 10) with radio buttons for selection and a 'Delete All Times' button. At the bottom are 'Add / Update Schedule' and 'Clear Form' buttons.

### Context

This form displays when the user selects "Rotation of Days" from the Schedule Type drop-down list and clicks Define Schedule.

### Contents

Page Header	(Account Name) + Create New Schedule
	Schedule Name
	Schedule Type
	# Days
	Start Date
Day/Time Range	Day
	From
	To
	Add   Delete
Add/Update Schedule	Submit button
Clear Form	Reset button
Schedule Preview	n days
	Edit Times   Delete All Times
	Up   Down

### Interaction

Action	Result
1. Enter number of days	defines number of days in rotation
2. Enter start date	Editable text field
3. Select Day	Name displays in Name field
4. Enter time ranges	Enter up to four ranges per day
5. Click Add or Delete	Adds or deletes time range
6. Click Add/Update Schedule	Commits changes to database



7. Clear Form

8. Click radio button in Preview

9. Click Edit Times

10. Click Delete All Times

11. Click Up or Down arrows

Draft Version Only

Clears all fields, including Name and Schedule Type

Selects day for editing

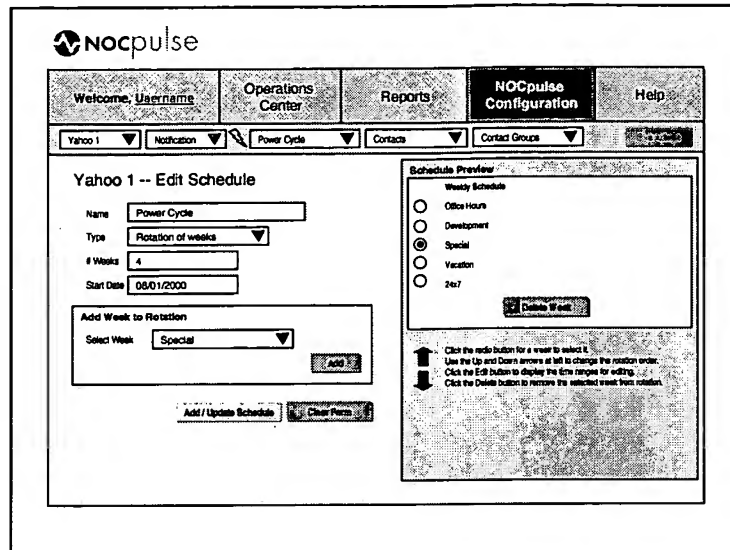
Displays selected day in Day/Time Range form

Deletes all times for selected day

Move selected day up or down in rotation order



## Rotation of Weeks Schedule



### Context

This form displays when the user selects "Rotation of Weeks" from the Schedule Type drop-down list and clicks Define Schedule.

### Contents

Page Header	(Account Name) + Create New Schedule
	Schedule Name Text field
	Schedule Type Drop-down list set to Rotation of Weeks
	# Weeks Editable Text field
	Start Date Text field, format dd/mm/yyyy
Add Week to Rotation	Select Week Drop-down list
	Add button
Add/Update Schedule	Submit button
Clear Form	Reset button
Schedule Preview	Defined weeks radio buttons
	Delete Week button
	Up   Down arrows

### Interaction

Action	Result
1. Select Week	Selects defined weekly schedule for inclusion in rotation
2. Click Add	Adds selected weekly schedule to rotation order
3. Click Add/Update Schedule	Commits changes to database
4. Clear Form	Clears all fields, including Name and Schedule Type
5. Click radio button in Preview	Selects Week for editing
6. Click Delete Week	Deletes selected week from rotation



Draft Version Only

7. Click Up or Down arrows

Moves selected week up or down in the rotation order

## Contact Form

## Context

(Permission: NP Admin, Customer Admin)

This form displays in the work area when the user selects a contact from the drop-down list or selects the "Add Contact" option on the list.

## Contents

### Header

(Account Name) + Edit Contact  
Update Confirmation Message

### Contact Form

User name                      Editable text field  
Password                      Editable text field  
Schedule                      Selection list  
Add Contact                      Submit button  
Delete Contact                      Button

### Define Method

Name                      Editable text field  
Schedule                      Selection list  
Method Type                      Selection list  
Parameters                      Text fields or selection lists  
                                         filtered by Method Type  
Add Method                      Submit button

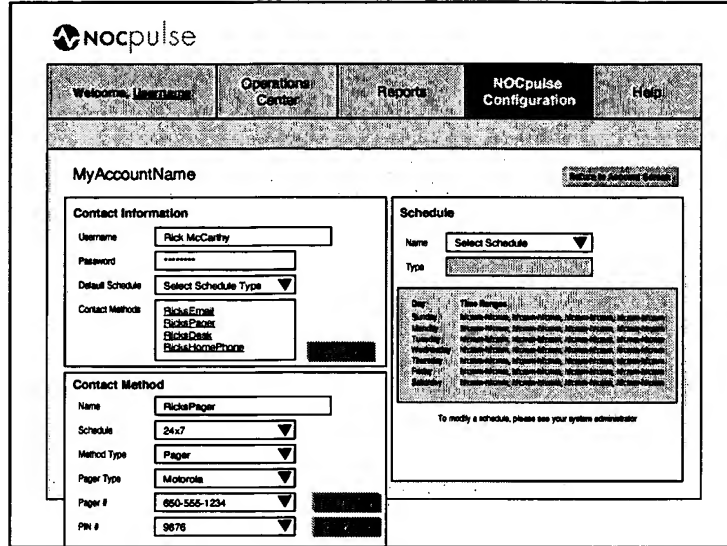
### Contact Method List

Radio buttons                      Defined Contact Methods  
Edit Method | Delete Method      Buttons

**User Form Interaction**

<i>Action</i>	<i>Result</i>
1. Enter text, select options from lists	
2. Click Add/Update Contact button	Updates record and displays confirmation message in header
3. Click Delete Contact button	Deletes selected record
4. Click Add Method button	Adds method to Contact Method list
5. Click radio button	Selects contact group for editing
6. Click Edit Method button	Displays selected method for editing
7. Click Delete Method button	Deletes selected method

## User Account Screen



### Context

(Permission: **Customer** -- limited permission for all users to edit contact info)

This form displays in the work area when you drill down on a username hyperlink, select a contact from the drop-down list, or select the "Add Contact" option on the list.

### Contents

#### Header

(Account Name)  
Update Confirmation Message

#### Contact Form

User name Editable text field  
Password Editable text field  
Schedule Selection list  
Contact Methods Hyperlink list  
Update Submit button

#### Define Method

Name Editable text field  
Schedule Selection list  
Method Type Selection list  
Parameters Text fields or selection lists, filtered by Method  
Type  
Add Method Submit button  
Clear Form Reset button

#### Schedule Display

Select Schedule Selection list  
Schedule Read-only display

### User Form Interaction

Action	Result
1. Enter text in Name field	Update Contact Name
2. Enter/Confirm Password	Defines password for Contact
3. Click change password checkbox	Displays Change Password fields Enter Old PW, Enter New PW, Confirm New PW
4. Select Schedule from list	Defines default schedule for Contact
5. Click Contact Method hyperlink	Displays method details in Define Method form



- |                                                        |                                                               |
|--------------------------------------------------------|---------------------------------------------------------------|
| 6. Enter text or select list options                   | Draft Version Only                                            |
| 7. Click Add/Update Method                             | Define or edit a Contact method                               |
| 8. Click Delete Method button                          | Updates database                                              |
| 9. Select Schedule from list in Schedule Display panel | Deletes selected method from database                         |
| 10. Click Return button                                | Displays selected schedule                                    |
|                                                        | Returns user to the screen from which they accesses this form |

## Contact Group List

The screenshot shows the NOCpulse web application. The top navigation bar has four tabs: 'Operations Center', 'Reports', 'NOCpulse Configuration', and 'Help'. Below the navigation bar is a status bar with the text 'Welcome, User Name' and several buttons: 'Account Name', 'Select Monitor', 'Select Group', 'Select Host', 'Select Metric', and a 'Go' button. The main content area is titled 'Contact Groups for Account' and displays a table with columns 'Groupname', 'Strategy', and 'Members'. The table lists several groups, all with a strategy of 'df1er' and a member count of '12345678'.

Groupname	Strategy	Members
f1ad	asclat	2345678
d1ad	dfascl	12345678
r1ad	f1er	12345678
v1ad	df1er	12345678
g1ad	asclat	12345678
r1ad	f1er	12345678
v1ad	df1er	12345678
g2ad	asclat	12345678
d1ad	asclat	12345678
g1ad	asclat	12345678
f1ad	asclat	12345678

**Context** (Permission: NP Admin, Customer Admin)

This page displays when you select the “List Contact Groups” option in the Contact Group selection list.

# Contents

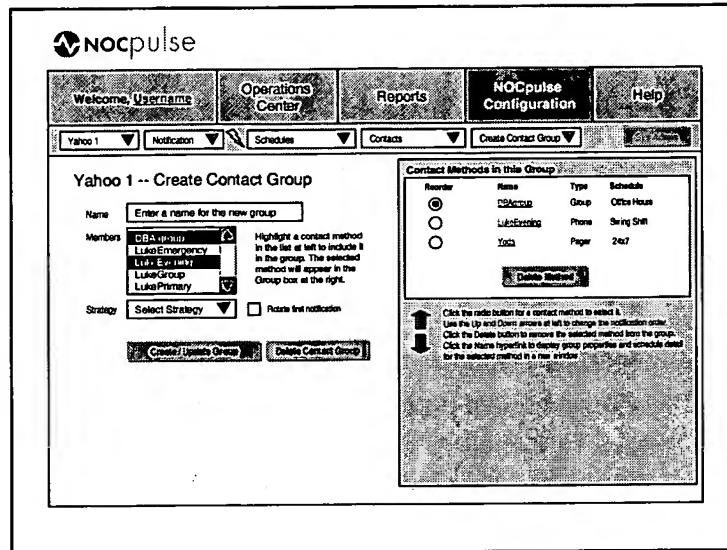
Header	(Account Name) + Contact Groups Add Group button
--------	-----------------------------------------------------

<b>Contact Group List</b>	TBD based on Telemon data; probably something like this:
Groupname	hyperlink
Description	read-only display
Contacts	read-only display

## Contact Group List Interaction

<i>Action</i>	<i>Result</i>
1. Click Add Group button	Displays blank Contact Group Form in the work area.
2. Click groupname hyperlink	Displays Contact Group Form in the work area with data for selected group

## Contact Group Form



### Context (Permission: NP Admin, Customer Admin)

This form displays in the work area when you drill down on a contact group hyperlink, select a contact group from the list, or select the "Add Group" option in the list.

### Contents

Header	Contact Group Name	
	Update Confirmation Message	
Group Form	Name	Text field
	Select Members	Selection list
	Select Strategy	Drop-down list
	Rotate First Notification	Check box
	Create   Delete	Buttons
Methods in Group	Radio buttons	Each method in group
	Group Name	hyperlink
	Delete Method	Button
	Up   Down arrows	

### Contact Group Form Interaction

Action	Result
1. Enter text, select options from lists	
2. Click Create/Update button	Saves Contact Group record and displays confirmation message in header
3. Click radio button	Selects Contact Method for editing
4. Click Group Name hyperlink	Displays group information in Group form

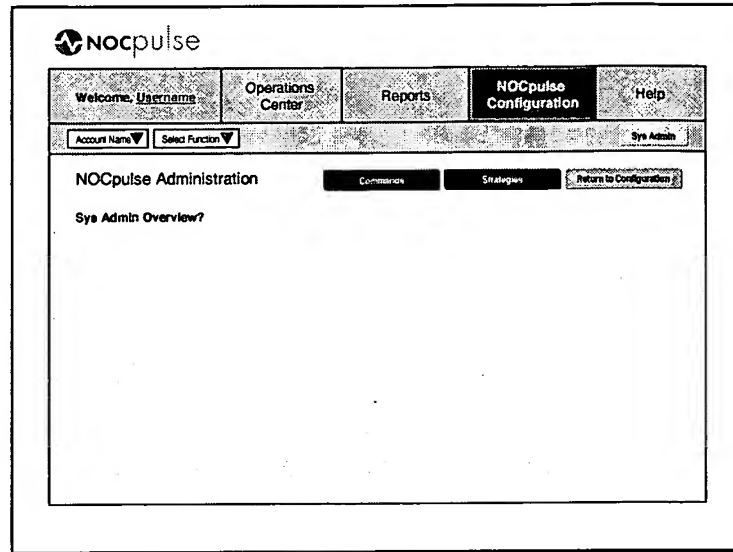


5. Click Delete button
6. Click Up or Down arrows

Draft Version Only  
Deletes selected group  
Move selected group up or down in group order



## System Administration



### Context

Authorized NOCpulse users will have a Sys Admin button on their Configuration Nav Bar. When the NOCpulse user clicks the Sys Admin button, the Administration screen will provide buttons to edit Commands or Strategies.

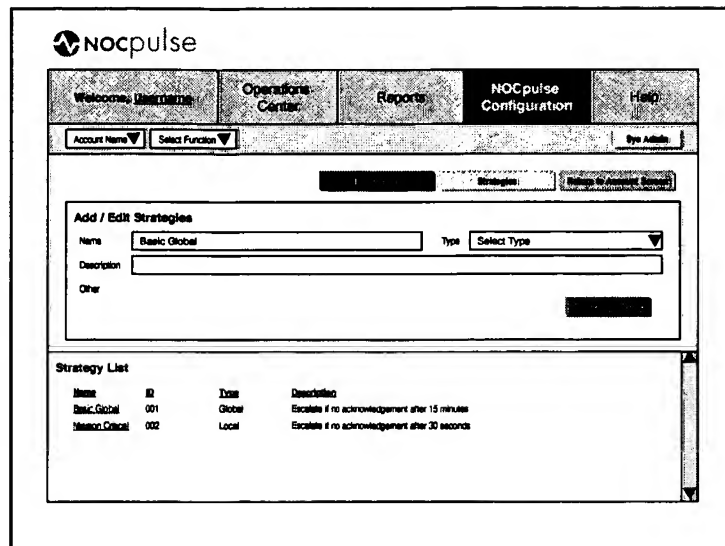
### Contents

Page Header  
Introduction/Instructional Text  
Commands Button  
Strategies Button  
Return Button

### Interaction

Action	Result
1. Click the Commands button	Displays the Command screen
2. Click the Strategies button	Displays the Strategies screen
3. Click the Return button	Returns the user to Configuration main page

## Strategies Form



### Context (Permission: NP Admin only)

This page displays in the work area when a NOCpulse administrator clicks the "Strategies" button on the System Administration screen.

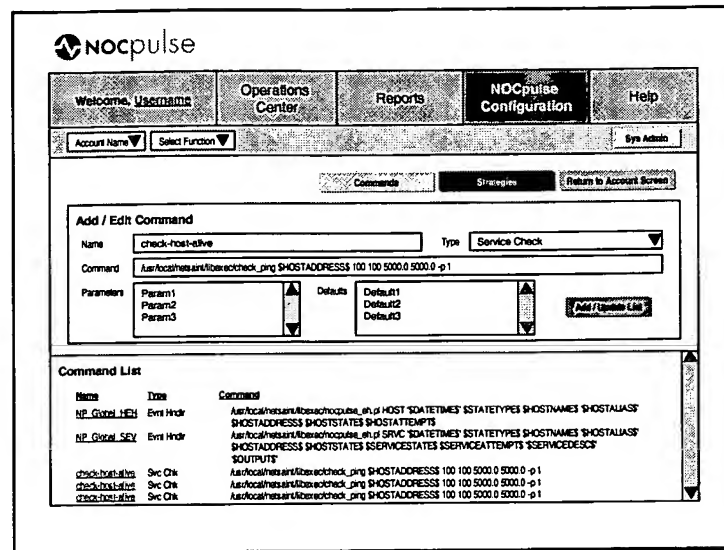
### Contents

<b>Sub Nav Buttons</b>	Commands	
	Strategies	Disabled
	Return to Config Main Page	
<b>Add/Edit Strategy</b>	Strategy Name	text field
	Type	selection list
	Strategy	text field
	Add Strategy	Submit button
<b>Strategy List</b>	Strategy Name	hyperlink
	ID #	unique ID
	Type	read-only text
	Description	read-only text

### Strategy Interaction

Action	Result
1. Enter/edit text in Name field	Defines name for Strategy
2. Select Type from drop-down list	Identifies Strategy Type
3. Enter strategy in Strategy field	Defines Telemon Strategy
4. Click Add Strategy	Adds Strategy to list
5. Click Strategy Name hyperlink	Displays Strategy data in Add/Edit box

## Commands Form



Name	Type	Command
NP_Global_HERF	Envr Hndr	Aur/local/netsun/ibwcheck_ping \$HOSTADDRESS\$ 100 100 5000 0 5000 0 -p 1
NP_Global_SEV	Envr Hndr	Aur/local/netsun/ibwcheck_ping \$HOSTADDRESS\$ 100 100 5000 0 5000 0 -p 1
check-host-alive	Sec Chk	Aur/local/netsun/ibwcheck_ping \$HOSTADDRESS\$ 100 100 5000 0 5000 0 -p 1
check-host-alive	Sec Chk	Aur/local/netsun/ibwcheck_ping \$HOSTADDRESS\$ 100 100 5000 0 5000 0 -p 1
check-host-alive	Sec Chk	Aur/local/netsun/ibwcheck_ping \$HOSTADDRESS\$ 100 100 5000 0 5000 0 -p 1

### Context (Permission: NP Admin)

This page displays in the work area when a NOCpulse administrator clicks the "Commands" button on the System Administration screen.

### Contents

Sub Nav Buttons	Commands	Disabled
	Strategies	
	Return to Config Main Page	
Add/Edit Command	Command Name	text field
	Type	selection list
	Command	text field
	Parameters	selection list
	Defaults	selection list
	Add Command	Submit button
Command List	Command Name	hyperlink
	ID #	unique ID
	Type	read-only text
	Description	read-only text

### Command Interaction

Action	Result
1. Enter/edit text in Name field	Defines name for Command
2. Select Type from drop-down list	Identifies Command Type

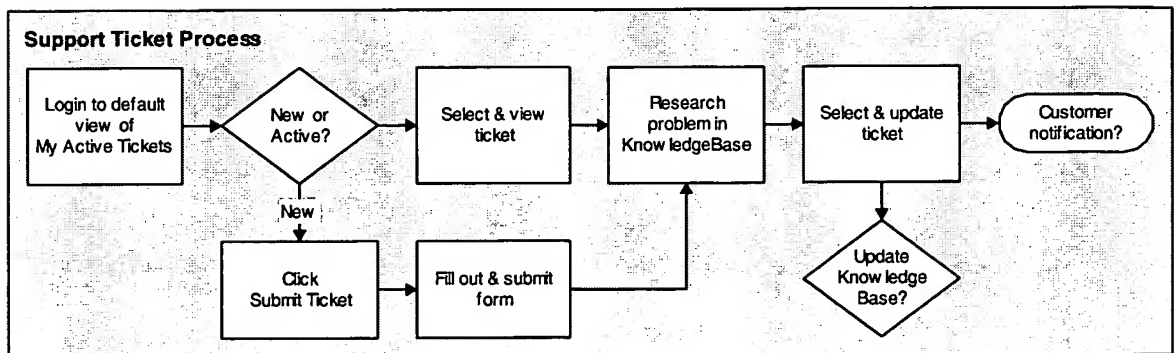
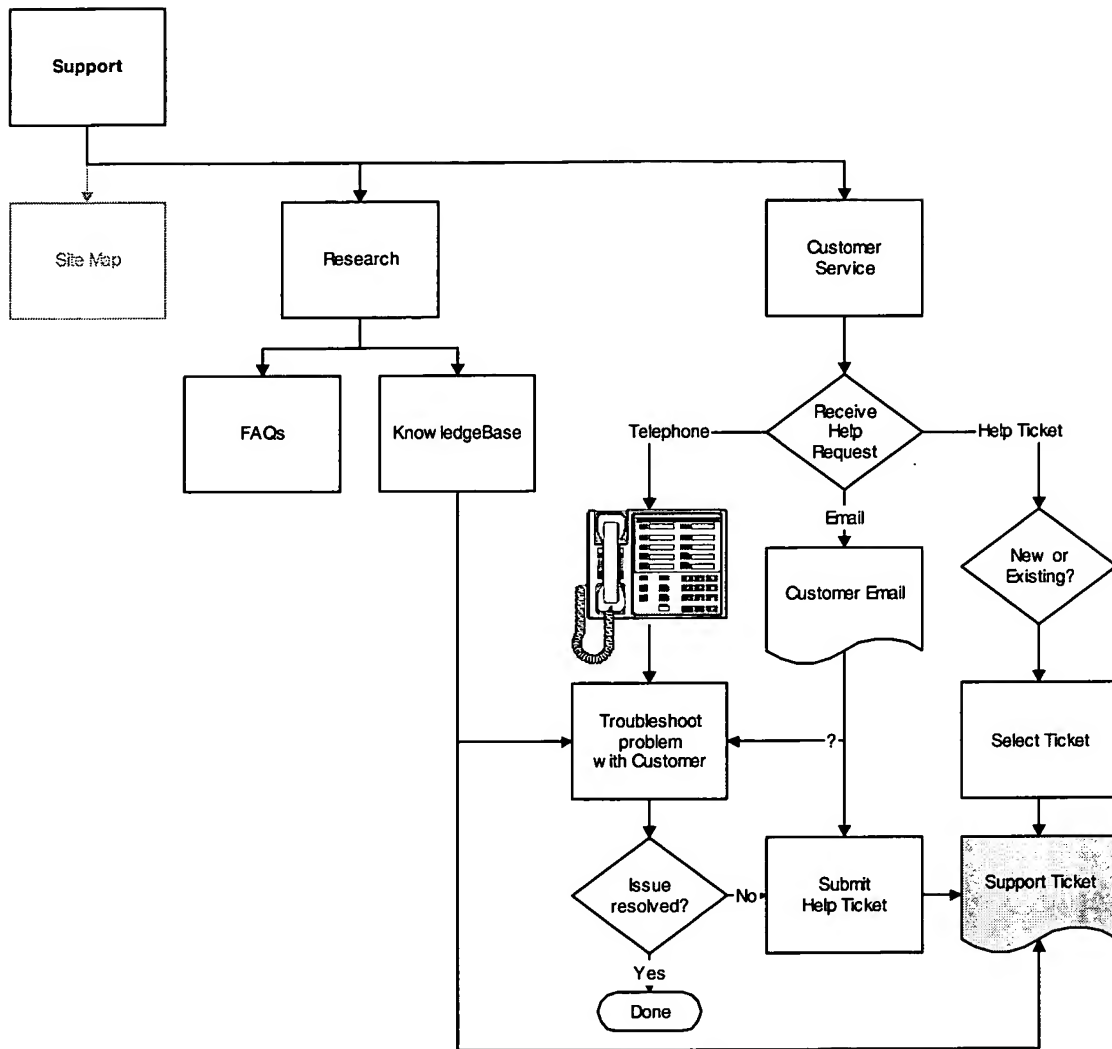


3. Enter Command in text field
  4. Select Parameters
  5. Select Defaults
  6. Click Add Command
- Click Command Name hyperlink

Draft Version Only  
Defines Command

Adds Command to list  
Displays Command data in Add/Edit box

## Help Desk Workflow



# NOCpulse

## Help Desk Interface

Draft Version Only

### Context (Permission: Help Desk Staff)

This page displays when a NOCpulse user with staff-level permissions clicks the support tab.

### Contents

<b>Primary Navigation</b>	Standard NOCpulse navigation	
<b>Secondary Nav Bar</b>	Username	Hyperlink
	Site Map	Button
	FAQs	Drop-down list
	KnowledgeBase	Drop-down list
	New Ticket	Drop-down list
	Review Ticket	Drop-down list
<b>Work Area</b>	Defaults to Welcome/Instructions screen	
	Variable display of Innovate content based on secondary navigation	

### Interaction

Action	Results
1. Select from FAQs list	List All FAQs: <b>Find FAQ Results Window</b> (Innovate form) Find FAQs: <b>Find FAQ Window</b> Create New Entry: <b>Create FAQ Window</b>
2. Select from KnowledgeBase list	Search KnowledgeBase: <b>KnowledgeBase Search Window</b> Create New Entry: ?



3. Select from New Ticket list
4. Select from Review Ticket list

Draft Version Only

Submit Ticket: **Find User Profile for Ticket Window**

Claim Ticket: **Find Tickets to Claim Window**

List New Tickets: **Look-Up Ticket(s) Results Window**

List All My Active Tickets: **Look-Up Ticket(s) Results**

List All My Tickets: **Look-Up Ticket(s) Results Window**

List All Active Tickets: **Look-Up Ticket(s) Results**

**Window**

Find Ticket: **Look-Up Ticket(s) Window**